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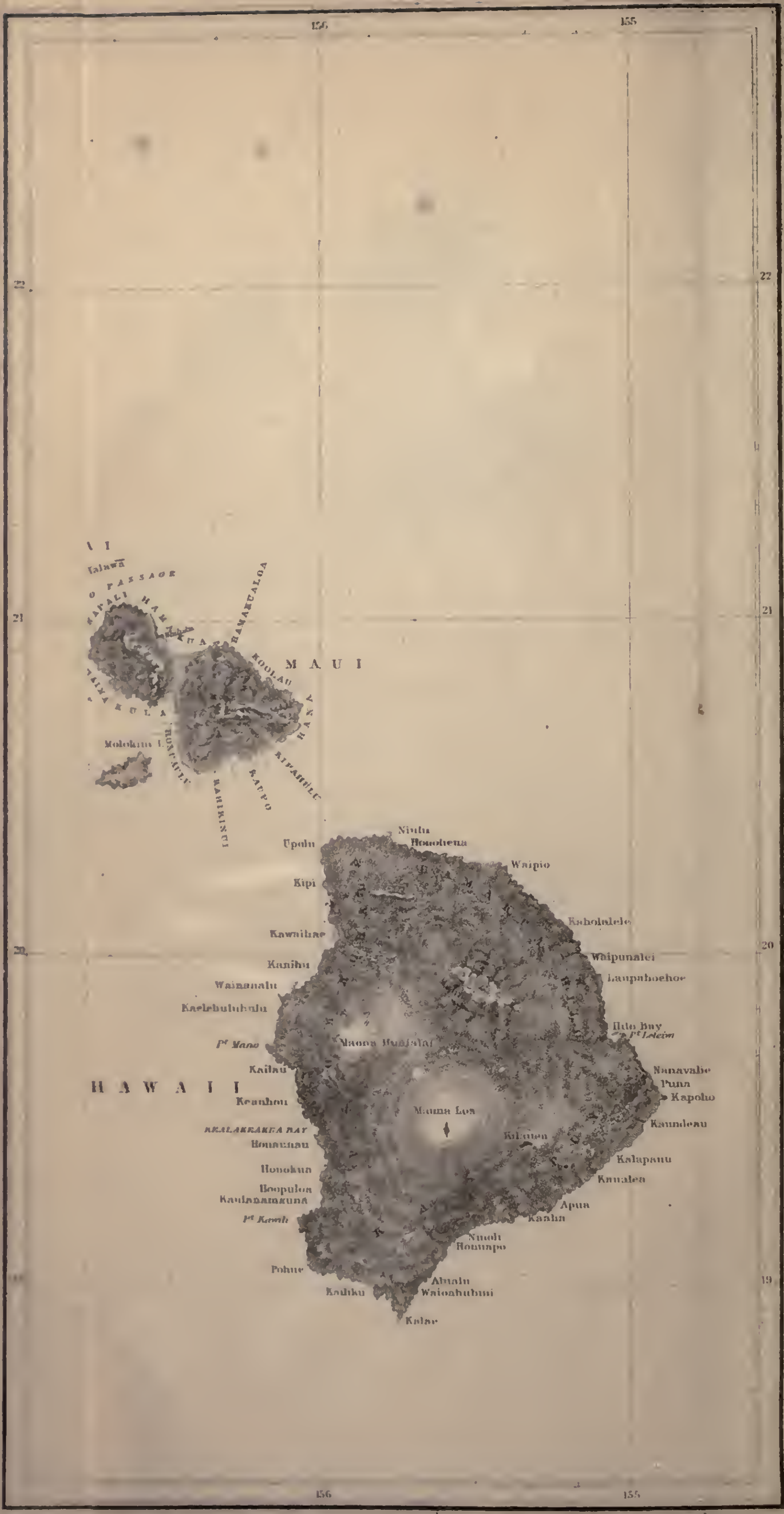
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# NARRATIVE

# OF

# THE EXPLORING EXPEDITION.

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## CHAPTER I.

### HAWAIIAN GROUP.

### 1840.

The king, Kamehameha III., who had given orders that he should be sent for as soon as the Vincennes arrived, reached Honolulu on the 29th September, from Maui. The next day I waited upon him, accompanied by our consul, Mr. Brinsmade, and by many of the officers and naturalists, at his quarters near the fort. A soldier dressed in a scarlet uniform stood on guard at the door. We were ushered into the audience-chamber, and presented to the king, whom we found seated in the midst of his retinue. The apartment was composed of two large rooms with low ceilings, communicating by folding doors. On the right of the king was Kekauluohi, a daughter of Kamehameha I., who acts as prime minister; and there were also present, among others, Kekuanaoa, the governor of Oahu, Mr. Richards, who is the king's interpreter and adviser, Haalilio, John Young, and the officers of the body-guard.

The king was dressed in a blue coat, white pantaloons, and vest. We afterwards understood that he had prepared himself to receive us in full costume, but on seeing us approaching in undress uniform, he had taken off his robes of state.

The appearance of the king is prepossessing: he is rather robust, above the middle height, has a good expression of countenance, and pleasing manners.

The person who attracted our attention most, was Kekauluohi. This lady is upwards of six feet in height; her frame is exceedingly large and well covered with fat. She was dressed in yellow silk, with enormously large gigot sleeves, and wore on her head a tiara of beautiful yellow feathers interspersed with a few of a scarlet colour.* Above the feathers appeared a large tortoise-shell comb, that confined her straight black hair. Her shoulders were covered with a richly-embroidered shawl of scarlet crape. She sat in a large arm-chair, over which was thrown a robe made of the same kind of yellow feathers as decked her tiara. Her feet were encased in white cotton stockings and men's shoes. She was altogether one of the most remarkable-looking personages I have ever seen.

The governor was handsomely dressed in a uniform of blue and gold.

The conversation was carried on with ease through the interpretation of Mr. Richards, and left upon our minds a favourable impression of the intelligence of the royal family of these islands. One thing was certain, namely, that, in regard to personal size, they are unsurpassed by any family that has ever come under my notice.

I next returned the visits I had received from the foreign residents, in which duty I was accompanied by our consul. I found many of them living in very comfortable stone houses, which were surrounded with young plantations of ornamental shrubs and trees. These plantations, with their gardens, are kept in a thriving state by means of irrigation. The water for this purpose is raised by windmills, that work pumps, from wells about ten feet in depth. It was represented to me that the water in these wells rose and fell with the flow and ebb of the tide; but after frequent trials of that in the rear of the house which I occupied, I could detect no variation greater than an inch or two. The wells are sunk through the bed of coral on which the town is built, and water is every where found beneath it. The water is not perfectly fresh, and many persons have that which they drink, brought from the valley of Nuuanu.

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* These feathers are among the most celebrated productions of these islands, and some idea of their cost may be formed when it is stated that each bird yields only a few, and that some thousands are required to form a head-dress. The wreath worn by Kekauluohi, was valued at $250, and her robe at $2,500. The birds (Melithreptes pacifica) are taken by means of birdlime, made from the pisonia, and the catching of them is practised as a trade by the mountaineers. The wearing of these feathers is a symbol of high rank.

I also had the pleasure of visiting the missionaries; and as many misrepresentations have been published, and much misunderstanding exists, relative to their domiciles, I trust I may be excused if I give a short description of their interior, to set the matter at rest. It will I think be sufficient to satisfy any one that they are not as luxurious in their furniture as has been sometimes represented. Their houses are generally one story and a half high, situated fifteen or twenty paces within an unpretending gate, and the garden is surrounded by adobe walls about seven or eight feet high. Some of the houses are of stone, but most of them are of wood; they are from twenty to thirty feet square, and twenty feet high, and have the appearance of having been added to as the prosperity of the mission increased. The front door opens into the principal room, which is covered with a mat or common ingrain carpeting, and furnished with a table, a few windsor chairs, a rocking-chair, and sofa, all of wood. There is a very high mantel, but no fire-place, the latter not being needed. On the mantel are placed four glass lamps, each with one burner, and in the centre a small china vase, with a bunch of flowers in it. Several coloured scriptural prints hang on the walls about a foot below the ceiling; on the table were a few devotional books.

The eating-room adjoins the principal room, and in one corner stands a cupboard, or an old sideboard, very much the worse for wear. This contained the common earthenware used at meals. A native girl, or woman, is all the "help;" and both the master and mistress take a part in many of the domestic duties. As to their fare, it is plain, simple, and wholesome, and always accompanied with a hearty welcome and cheerful, contented faces,—at least, I found it so. The salaries of all, both clerical and secular members, are the same, namely, four hundred dollars for a family. How it is possible for them to clothe and maintain a family on such a stipend at Honolulu, I am unable to conceive. They receive no other compensation, nor are they allowed to hold any property for themselves, not even a cow. All must belong to the mission, and be paid for by it.

To several of the missionaries I feel indebted for unsolicited kindnesses, and I spent many agreeable hours in their society. I must bear testimony that I saw nothing but a truly charitable and Christian bearing towards others throughout my intercourse with them, and heard none but the most charitable expressions towards their assailants. Heedless of the tongue of scandal, they pursued their duties with evenness of temper, and highly laudable good-will.

Near the missionaries' dwellings is their printing establishment under the superintendence of Mr. Rogers. Here they have three presses, which are generally in active employment. The workmen are all natives, and, from Mr. Rogers's account, they work very steadily, during the hours of labour, throughout the year. This occupation is considered as the road to preferment; for the knowledge and habits of industry they acquire in it naturally raise them above their fellows, and they are soon required for the wants of the country, either in teaching schools or other employments under the government.

I was told that upwards of four reams of paper are printed daily, affording an extensive circulation of books in the native language. Eleven thousand copies of the whole Bible have been printed, and two weekly papers are published, one in English, called the Polynesian, the other in the Hawaiian language, which the natives generally read. They have likewise a book-bindery, under the direction of the society. Many tracts are also published, some of which are by native authors. Of these I cannot pass at least one without naming him. This is David Maro, who is highly esteemed by all who know him, and who lends the missionaries his aid, in mind as well as example, in ameliorating the condition of his countrymen, and checking licentiousness. At the same time he sets an example of industry, by farming with his own hands, and manufactures from his sugar-cane an excellent molasses.

Though not actually connected with the mission, the Seaman's Chapel, and its pious and enlightened pastor, the Rev. Mr. Diell, assist in doing great good among the sailors who frequent the port. The chapel is a neat wooden building, and is chiefly frequented by the foreign residents and sailors in port. From its cupola, on the Sabbath, always waves the Bethel flag; and it is generally well attended. The Rev. Mr. Diell, to the regret of all, was about returning home. He was in the last stage of consumption, but hoped to reach his native land before his dissolution, which he felt and knew was rapidly approaching. I regretted to hear that in this hope he was disappointed, having died on the homeward passage. He was truly a pattern of resignation, and was beloved by the whole community. He had done much, I have been told, to soften the asperities between the contending factions, and to arrest the course of vice, which, on his arrival, he found stalking abroad, regardless of moral laws, and setting at nought all those enacted by the government for the protection of the peace and quietness of the well-disposed, as well as for punishing those who were guilty of crime.

As the natives, under the tuition of the missionaries, emerged from barbarism, instead of deriving encouragement from their intercourse with foreigners, difficulties were thrown in the way. The chief agents in the vexations to which the government has been exposed, are the designing individuals who hold the situation of consuls of the two great European powers; and through their baleful influence the difficulties have been continually increasing, until, finally, these islands and their government have been forced upon the attention of the whole civilized world. All the laws and regulations established by the kings and chiefs for repressing immorality and vice, were not only derided, but often set at open defiance, because they clashed with the interests of some of the individuals settled here. If attempts were made to enforce them, official remonstrances were resorted to, accompanied by threats of punishment. As this, for a long time, did not follow, the matter came to be considered as a systematic course of bullying, which soon lost its effect, and remained unheeded. When these idle threats failed to effect their object, the new one of the arrival of a man-of-war was held out as a terror. In these disputes the missionaries seldom took a part, even in the way of advice, and left the chiefs to their own guidance. They did not feel themselves competent to give advice upon international questions, and, besides, considered them as of a temporal character; for which reason they believed it their duty to abstain from any connexion with the disputes. They could not, however, avoid being as much surprised as the chiefs themselves were, at the continually renewed difficulties which were made by these troublesome officials, and which there was nothing in the laws or regulations to justify.

As to the threat of the coming of a man-of-war, the natives rather looked to it as the sure termination of the vexations to which they were exposed.. They had formed their opinion of the character and probable course of action of the naval officers of either of the two great powers from the visit of Lord Byron in H. B. M. frigate Blonde. This vessel had been the bearer of the bodies of the late King Liho-liho and his wife from England, and her commander had made a most favourable impression upon the chiefs and people. They therefore expected that on the arrival of another man-of-war, all existing difficulties would be removed, and that their good intentions and strict adherence to justice would be made manifest. In this expectation they were disappointed; the British naval commanders who came afterwards were not Byrons, and were, with one or two exceptions, the willing tools of the designing consul. Influenced by his erroneous representations, they demanded apologies and concessions, and endeavoured to dictate treaties. The regent and chiefs resisted these demands, and many disagreeable interviews occurred.

England was not the only nation whose ships of war were brought to aid in overawing the natives. A Frenchman, who claimed the title of consul, although not recognised as such by the king, persuaded the captain of a French frigate to insist upon his being acknowledged as a government agent. Thus, while this half-civilized community was struggling to make advances in morals and religion, French and English men-of-war, alternately, and occasionally in concert, did all in their power to break down the laws and regulations by which alone the union of the native barbarism with the worst vices of civilization could be prevented.

In this state of things it became evident to the king and chiefs that they were in want of information in relation to international law, and they in consequence desired to obtain a competent person to give them advice on that subject. For this purpose they endeavoured to procure a suitable counsellor from the United States. Failing in this attempt, they requested the Rev. Mr. Richards, one of the missionaries, to undertake this duty.

The missionaries, as a body, seem to have thought it a duty to abstain from meddling with any temporal matters, but Mr. Richards was prevailed upon to serve. As respects the internal policy of the islands, no better guide than this gentleman could possibly have been chosen. But like the other missionaries, he was but little versed and had no experience in the affairs of government. He was unused to the petty squabbling of the foreign officials, and his mind was far above the ignoble task of disputing with the revilers of all law and religion.

I had the pleasure of becoming intimately acquainted with Mr. Richards, in his private capacity, and enjoyed an opportunity of judging as to the manner in which he performed his public functions; and I cannot but felicitate the government and people of Hawaii upon their fortune in obtaining the services of one who has made such exertions in their behalf, and who is so well qualified for the responsible situation he holds.

Mr. Richards had, as missionary, been for years a resident of these islands, and was thus in close connexion with the king and chiefs in their spiritual concerns. That they should have desired his counsel in their temporal affairs, is a strong proof of the affection and esteem with which they regarded him, and is alike creditable to his character and the soundness of their judgment. It was not, however, to be received as an evidence of any undue influence of the missionaries in political questions; and from a close examination I am satisfied that no such influence exists. Mr. Richards, since his appointment has no voice in council, and is merely an adviser on such questions as the council may consider as demanding an acquaintance with the usages of civilized nations.

The council, in which the government is in fact vested, is composed of thirteen persons ranking as chiefs of the highest order, four of whom are females.

When any subject demands their consideration, the facts and reasons, pro and con, are fully laid before the council, in a comprehensive and simple manner, and the vote and decision of its members are had, without any further recourse to Mr. Richards. The subject is always acted upon with great deliberation, and frequently with much discrimination and judgment; for not only are the chiefs a strong-minded people, but the female members of the council are also remarkable in this respect, and all appear desirous of doing what is right and proper.

An anecdote of what occurred at one of their deliberations, will, I think, illustrate their simple mode of coming to a proper decision, and show that when they are made to understand that any act or regulation will prove unjust, they are quite desirous to revise their own intended vote.

When they had under consideration the law relative to the descent of property, and previous to its final passage, each was, as usual, asked whether it should become a law. All had assented to its passage except one of the female members, who, when the interrogatory was put to her, laughed, but gave no answer. On being pressed, she said, "The law to which you have assented, has it not passed? My vote is not then needed." But, supposing from this, that she had reasons for withholding her vote, they pressed her to speak, when she asked, "Does not this proposed law give one-third of the property to the king, and two-thirds to the heirs of every one?" Yes. "Is this just? How differently does this affect one or two of the chiefs and myself! They have no children; I have four. My heirs will suffer, theirs will not. This is not right."

They saw the subject in a new light, and at once determined to adjourn, for the purpose of thinking the affair over. They finally came to the conclusion, that all the property of those who had children should go to the offspring, but that of the property of those who had no direct heirs, the king should be entitled to one-third. Thus stands the law at present.

On the 2d October, I received a visit from Mr. Richards, who communicated to me the desire of the king that I should visit him. In conformity with this request, I called upon him, accompanied by Captain Hudson. Although I had departed, after my first visit, highly prepossesed in his favour, I was not prepared to find him so easy and gentlemanly in his manners as he now appeared. He was alone when he received us, and in a few minutes, we found that he was able to express himself very intelligibly in English, and was quick in comprehending what was said to him.

He was found at one end of the large grass-house built for him by the Governor Kekuanaoa.* He received us in a friendly manner. From the representations that had been made to me, I had been led to believe that the king was not only dull of apprehension, but had little disposition to engage in or talk of the affairs of government; I found him, on the contrary, exhibiting an intimate acquaintance with them. He entered fully and frankly in the discussion of all the matters in relation to which disputes had arisen between him and foreign nations; and I, on the other hand, was desirous to elicit his views with regard to the difficulties he had for the last year or two encountered, and learn the feelings he had experienced in the arduous situations in which he had been placed.

He spoke of the manner in which foreigners had obtruded themselves into the affairs of his government, so that no one of its acts was permitted to pass without his being called, in a rude and uncivil manner, to account for it. He stated that he found great difficulty in acting correctly; for foreigners, whom he and his chiefs had treated with every possible attention, had from interested motives, urged measures upon him which he knew to be wrong, and had, in many cases, abused the confidence he had placed in them. He expressed the strongest desire to do right, and to protect his people from evil influences and the encroachments of designing persons, by wholesome laws and regulations.

The treaty which he had been compelled to sign by Captain Laplace, of the French frigate Artemise, was alluded to by him in terms of mortification: he regretted that he had done an act and yielded to a measure which had rendered nugatory his municipal laws and regulations.

To explain this part of the conversation, it will be necessary to relate some particulars of the circumstances which led to this interference of a French commander with the laws and ordinances of a weak, and, as I think it will appear clearly, an unoffending people.

There has always been a party among the foreign residents opposed to the improvements which are taking place in the morals and habits of the Hawaiian people under the influence of the missionaries. My position enabled me to hear the statements of both parties, and although the heat of the dispute had in some degree abated, mutual complaints were still made. By a comparison of the two statements, the truth does not appear difficult to be reached.

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* This building is about sixty feet long by forty feet wide, and contains only one room, which may, however, be divided by movable screens into several apartments. The floor was covered with mats. The whole was well adapted to the heat of the climate, and the smell of the sweet-scented grass was agreeable and refreshing.

The party opposed to the missionaries were anxious to counteract the influence they ascribe to them; and for this purpose, when they saw the old heathen practices and vicious habits of the people rapidly vanishing, bethought themselves of the Roman Catholic priests, and seem to have desired to excite a sectarian war as one of the most effectual means of opposing the progress of the Protestant missionary cause. For this purpose they held out inducements to those priests to enter and establish themselves in the Hawaiian territory. This was in direct defiance of the law, which had made the Protestant the established and solely tolerated religion of the state.

This principle, by which all forms of worship except one were excluded, seems to have been adopted by the king and chiefs, in the belief that two creeds would have tended to distract the minds of the people, and produce contention and confusion. What share the missionaries had in bringing them to this conclusion, I found it impossible clearly to ascertain; but by information obtained from those best informed on the subject, I was satisfied that the accounts of the persecutions undergone by Catholic converts, and of the cruelties said to have been endured by them, were much exaggerated. Nor were these in any case to be imputed directly to the missionaries, who had in many instances endeavoured to prevent the infliction of punishment for religious reasons. Of cruel treatment for this cause, I could learn no authenticated instance, nor did I meet with any one who could adduce facts from his own knowledge, although I sought information from those inimical to the missionaries, as well as from those who favour them. That the missionaries and their proselytes entertain apprehensions of evil from the propagation of Romanism is true, but I found less illiberality on the subject of religious forms existing in the Hawaiian Islands than in any place I visited on the cruise; less than is entertained by opposing sects in our country; and far less than exists in Catholic countries against those who hold the Protestant faith.

In spite of the prohibitory law, it is a notorious and indisputable fact, that the first Catholic priests, who landed in 1827, were kindly treated by all classes of natives, and by the Protestant missionaries. The American mission even furnished them with the books they had printed to enable them to learn the Hawaiian language. When, however, mass was first publicly celebrated, the converted natives in general took an aversion to that mode of worship, as it appeared to them a step backwards towards their ancient idolatry; and the very circumstance which, had they continued heathen, might have been an inducement to adopt, served now to alienate them from it.

No serious disturbances in relation to religion occurred until 1830, when the Catholic missionaries were considered to have been engaged in promoting the attempted rebellion of Lilika. The Catholics, for this reason, were associated in the minds of the rulers with the opponents of good order and the violators of the laws. The chiefs, in consequence, became jealous of their religion, and of their attempts to promulgate their doctrines. Whatever may have been the truth of the suspicion of the interference of the Catholic priests with the affairs of government, there can be no doubt that the proceedings which followed were dictated by reasons of state, not by sectarian religious feelings. It was determined to expel the priests from the island, and they were sent to California, at the expense of the government, in a vessel fitted out for the purpose.

No further attempt was made by the Catholics to propagate their doctrines in these islands until 1836, when the Rev. Mr. Walsh landed secretly. When his calling became known, he was ordered to depart; but, after various excuses for delay, finally obtained permission to remain, on condition that he would not attempt to propagate his religion.

In November of the same year, Captain Russell, of H. B. M. Ship Acteon, made a treaty with Kamehameha III. One of its articles provided for the protection of British subjects and property; and under this treaty with a nation whose established religion is Protestant, it was resolved that an attempt should be made to introduce Catholic missionaries again, by making use of the British flag, and by claiming that at least one of them, an Irishman, came under the protection of its provisions.

The brig Clementine arrived, under British colours, having a number of Catholic priests on board, who landed. Great excitement was at once produced in Oahu, and they were forthwith ordered to re-embark and depart in the same vessel. This they refused, but were compelled by threats to comply, no force, however, being used. Although under English colours, the vessel was owned by the French consul; but he, when asked by the authorities of Oahu to interfere, denied that he had any control over the vessel, asserting that she had been chartered.

The Catholic priests having been compelled to re-embark, the vessel was abandoned by the owners and those who had chartered her. Her colours were hauled down by the French, and burnt in the street by the British consul, and a large amount of damages was claimed from the government, on the plea that she had been forcibly seized.

This transaction had hardly occurred, when the French frigate Venus, Captain Du Petit Thouars, and H. B. M. ship Sulphur, Captain Belcher, arrived. The two consuls did all in their power to make it appear that a gross violation of the rights of their respective citizens had been committed. The scenes which followed were disgraceful; for instance, the English consul so far forgot himself as to shake his fist in the face of Kinau, a female, second in rank to the king; and Captain Belcher did the same to the Rev. Mr. Bingham, the head of the American mission, whom he threatened to hang at the yardarm. The only offence of the reverend gentleman was his having acted as interpreter, and being supposed to exercise an influence over the government. Although this threat was no more than idle bravado, it produced much excitement.

A treaty was made with the French, and new articles were added to the Russell treaty. Both commanders promised that the Catholic missionaries should depart at the earliest opportunity, and should not preach or attempt to propagate their religion. Under the French treaty, however, it was afterwards claimed that the missionaries had the right of teaching their tenets, although both the officers had thus formally acknowledged that no such right could exist against the consent and without the permission of the Hawaiian government.

Some months after these transactions, the provisor of the Bishop of Nicopolis, with some assistants, arrived at Oahu, when permission to land was refused him, and the vessel was not permitted to enter the port, until the owner had given bond that the priests should not be landed. These priests, together with those already under a stipulation to embark as soon as they could procure a passage, purchased a schooner, in which they sailed for the island of Ascension, in the Caroline Group.

The king and chiefs now thought it necessary, for the purpose of securing themselves against any future annoyance, to enact a law making it penal for any one to teach or propagate the Romish faith. Under this law some of the natives were fined and otherwise punished. Every possible endeavour was made to throw the odium of this law on the American mission, and it was asserted that its enactment had been procured through their influence over the king and chiefs. The falsehood of this charge became apparent when, eighteen months afterwards, the repeal of so much of the law as authorized the infliction of corporal punishment, was effected through the instrumentality of the missionaries, and religious toleration was proclaimed. If any blame is to be imputed to them, it is because they did not at an earlier period take steps to obtain the withdrawal of an ordinance so much at variance with the institutions of the country whence they came, where alone, of nations professing Christianity, toleration is an unknown term, because all sects stand upon an equal footing. It is possible that they had warm and excited feelings to contend with; but if they had it in their power to obtain the repeal of the law, under which they must have heard that much severity was practised, at an earlier period, there can be no excuse for their delay. This supineness, whether apparent or real, has naturally excited censure, both in Hawaii and in the United States, and has served to give a shadow of probability to the numerous falsehoods and misstatements that have been published in relation to their conduct in other matters. Even the severity that was reported to have been practised while the law continued in force, was far less than is usually represented, and the reports in relation to it seem generally to have been much exaggerated.

The arrival of Captain Laplace, in the French frigate Artemise, brought about a crisis, for which it appears that no party was prepared. It was generally supposed in Honolulu, that the mission of this officer was the consequence of representations made by a secret agent of the Romish missionaries, by the name of Murphy, who is suspected of having informed the French government that a persecution was still going on against French Catholics and citizens. How far this could be true will appear from the fact that the number of the subjects of France in these islands is *four*, including the consul, but excluding his family, who are English; how valuable the commerce which required a frigate to protect it, will be properly appreciated, when it is stated, that only three French vessels had visited the islands during the two years previous to the mission of Captain Laplace, and that the value of their cargoes was no more than $20,000 or $30,000. Only one French vessel arrived in the year which followed the transactions I am about to refer to.

That some gross misstatement had been made, is evident from the tenor of Captain Laplace's manifesto,* in which he states that he had been specially sent to put an end to the ill-treatment received by French subjects, and to secure them the free right of their worship.

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* This will be found in Appendix I.

He ascribes the fancied evils of which he complains to the evil course of the American missionaries, and charges the king with having been misled by "perfidious counsellors."

How far this opinion was well founded, will appear by a letter addressed on this subject to the king, by the American consul, and his reply. I deem it an act of justice to the American missionaries, that these official documents should be made public, as the most authentic testimony that can be procured on the subject, and which I am of opinion must command full belief.*

So far as can be learned from Captain Laplace's manifesto, his instructions had reference only to the subject of religious toleration; he was to insure the future good treatment of French Catholics, and of the natives converted by them. He demanded, in addition, as surety for the future good conduct of the king and chiefs, the sum of $20,000, for which it has been alleged he has not accounted; and the French consul contrived to turn the intervention of Captain Laplace to his own personal advantage, as will presently be seen.

The promulgation of this manifesto, and the exorbitant demand with which it was accompanied, produced great consternation at Honolulu, and throughout the island of Oahu. The foreign residents were in alarm for their property, which was exposed on the one side to the dangers of a bombardment, and on the other to the pilfering of the natives; the natives were dismayed at the demand of a sum they were unable to pay; while the missionaries, with their wives and children, were the objects of a proscription, from which, the American consul was informed, their national flag should not be a protection, nor guard them from insult and injury.

Until the demands of the French captain should be complied with, the port of Honolulu was declared by him in a state of blockade, and no advices were allowed to be sent from it except with his knowledge.

The conduct of the foreign residents, at this juncture, was most extraordinary. So far from aiding, by their advice and countenance, the government under whose protection they had been living and making fortunes, they organized a committee to look to their own safety in the threatened crisis, formed a company of minute-men, not to act against the invaders, but against the natives; and actually applied to Captain Laplace for the loan of arms and ammunition, to be employed against those to whom they were in so many ways indebted. They thus took part against the native government, which they deserted in its utmost need; and it is with regret that I am compelled to state that the Americans as a body did not form an exception, but that some of them left the native rulers to struggle as they best could with a powerful enemy.

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* This correspondence will be found in Appendix II.

The missionaries who were proscribed, declined to involve the king and chiefs in further difficulties by giving advice, which, coming from them, would have been obnoxious to the French commander, but silently awaited the suffering which they seemed called upon to undergo.

The regent, Kekauluohi, and the governor, Kekuanaoa, succeeded after some negotiation in obtaining a delay of the threatened hostilities, until the king, who had been sent for, should arrive from Maui, or until a sufficient time should be allowed for his so doing; and Haalilio was sent on board the frigate as a hostage, for the execution of the treaty they were required to sign. The time which was thus allowed to intervene, was spent on the side of the foreigners in creating alarm, and holding up in dismal colours the prospect of the bloodshed and rapine that were to fall on the devoted community, in case the demands of the French captain were not complied with; and on the part of the chiefs in forming an efficient police to suppress any intestine commotion. Their conduct ought to have put to the blush those whose property they thus prepared to guard, and I can conceive nothing more disgraceful than the conduct of the foreigners on this occasion. Even the American consul fell in the first instance into an error, in not asserting the right of his flag to protect all Americans, and in not throwing back upon the French commander the unmanly threat he had uttered against the missionaries and their families. He, however, fully retrieved his error before the affair ended.

It would appear that the sum demanded by Captain Laplace had been made so large by the advice of the French consul, who knew that the resources of the native government would not enable them to raise it, and who hoped that, in lieu of it, any commercial arrangements he might choose to dictate would be granted, or that a good pretext would exist for the occupation of the island by the French, either of which might be turned to his (the consul's) pecuniary advantage. The same reasons operated in a different manner upon the other foreign residents; for after their first alarm had somewhat subsided, they became aware of the injury to which the latter alternative would have subjected them, while from actual hostilities they would be the greatest sufferers; and thus, to the great disappointment of the French consul, they determined to lend the demanded sum to the government. The king did not arrive at the specified time; but the regent and governor, being thus furnished with funds, at a high rate of interest, signed the treaty.

Although the hopes of the French consul to see the island taken possession of by his countrymen were frustrated, he took advantage of the state of affairs to secure a personal advantage to himself, by procuring a commercial treaty which should abrogate, in favour of the French, the laws against the importation of spirituous liquors. Captain Laplace lent himself to this design, and a commercial treaty was drawn up, which, under the avowed intention of protecting French commerce, provided for the free admission of brandy and wine, in which the consul had hitherto been an illicit trader. This treaty was presented to the king, who had by this time arrived, late in the afternoon, and he was required to put his signature to it by the next morning, failing which, it was intimated that hostile measures would be again resorted to. It is not surprising that the king, on this occasion, found himself, as he expressed it to me, completely at a loss what to do, when he found a second treaty presented to him for his signature, which broke down his laws and the municipal regulations of the island. These difficulties were enhanced by finding that he was left entirely to himself, and without the aid of any friendly advice; for no time was allowed him, even to call in the counsel of his own chiefs. The foreigners, both residents and missionaries, kept aloof from him, although now was a juncture at which the true friends of this people might have acted to advantage by stepping forward in support of the laws under which they lived. They cannot be too much blamed for having suffered this flagrant outrage upon the rights of a feeble nation to be committed with their knowledge, and without strong and decided remonstrances on their part. The missionaries, in particular, lost a glorious opportunity. It would have shown their character in a beautiful light, if, after abstaining as they did from any act that might have increased the embarrassment of the government, when they were themselves threatened, they had come forward to oppose, by every means in their power, the overthrow of the laws enacted to check the scourge of intemperance, against which they had so long contended.

The merchants, also, had not the spirit to raise a voice in condemnation of an act fraught with so much evil to the people from whom they were gaining their livelihood. Although all were aware of what was going forward, and some of them were appealed to, none would take the responsibility of advising the king to withhold his signature from a treaty that was to degrade him in his own eyes, and which subverted the laws that had hitherto been so beneficial.

I make these comments on the conduct of the foreign residents and missionaries, because I am satisfied that the smallest opposition would now have checked the career of Captain Laplace; and it would have required but little argument to prove to him the selfish views of the French consul. Whatever he might have done had his first requisitions not been complied with, I cannot believe, that to secure a commercial treaty (which does not appear to have been part of his instructions), however advantageous, he would have ventured to commence hostilities, or that, if opposed on this point, he would have proceeded to trample on the rights of the monarch of a weak and unoffending nation.

It was now that Captain Laplace insisted upon the recognition, in the capacity of consul, of the irresponsible individual of whom we have spoken under that style, but who had not hitherto been received by the government.

The affair terminated by the landing of Captain Laplace, with two hundred of his men, fully armed and equipped for battle, for the purpose of celebrating mass in one of the straw-built houses of the king.

The frigate sailed the day after this ceremony; and thus, in the space of ten days, Captain Laplace had, by the terror of his cannon, forced a dreaded religion upon a reluctant people, heaped ignominy on the sovereign and chiefs, trodden down the laws, and left the islands open to the introduction of immorality and vice, besides carrying off in his frigate the whole of the circulating medium. This was truly an heroic exploit, and one that must redound greatly to the credit of all who were concerned in it!

The immediate consequences of the treaty, were it not for their serious results, would be ludicrous. The brig Clementine, which has before been mentioned, was immediately despatched by the French consul to the coast of South America, whence she returned without delay, having on board the Bishop of Nicopolis with several priests, and a full cargo of French wines and brandy. It is needless to describe the effect which the introduction of quantities of intoxicating liquor produced upon the population of the islands, the inferior classes of which have still the propensity manifested by all savages for this worst product of the arts of civilized nations. The chiefs have indeed endeavoured to put some impediment in the way of the progress of the scourge, by making it necessary to obtain a license for the retail of spirituous liquors.

After this account, it will be easy to understand the feelings of mortification and regret with which the king spoke of the Laplace treaty. He said, that he was not surprised that France should have sent a force to inquire whether his people had injured the natives of that country who had visited them, but he did wonder that so great a nation as France was represented to him to be, should have wished to destroy his laws, and make his people drunkards for the sake of selling a small quantity of brandy; that, were not his honour concerned, he would willingly sacrifice the twenty thousand dollars which Captain Laplace held as security for the faithful performance of the treaty, if by so doing he could prevent the demoralization of his people; that the commercial treaty had been forced upon him by Captain Laplace and the French consul, who threatened to renew the war and destroy Honolulu; that they refused him time to consult with his chiefs or any other person, and insisted on receiving his signature the next morning. Having no one with whom to advise, his own impulse was to do any thing that might serve to preserve peace and prevent injury to his people and the foreigners under his protection.

He said further, that this was not the only instance in which his consent had been extorted by threats, to measures of which he disapproved, and that there had been instances when he had been called upon to perform alleged promises which he had never given, for there were some of the foreigners who misrepresented every thing that took place in their interviews with him.

I at once pointed out a simple remedy for this, namely, that he should hereafter transact all business in writing, and have no verbal communication with people of this stamp or indeed with any one; telling him that by keeping their letters, and copies of his own, he would always be in possession of evidence of what had passed. I assured him that I considered his government to have made sufficient progress towards a position among civilized nations to authorize him to require that official business should be carried on in this manner, and expressed my belief, that should he adopt this method, the "bullies" of whom he had spoken would give him no further trouble.

I now found that his principal object in requesting an interview with me was, that he might renew and amplify his treaty with the United States, for which purpose he thought it probable that I might have had instructions. When he found that this was not the case, and that I had no official communication for him, he was evidently disappointed; for he appeared most desirous to enter into a close friendship with the United States, and spoke in the highest terms of the kind manner in which he had ever been treated by our consul Mr. Brinsmade and the commanders of the United States vessels of war that had visited his islands. In conclusion, he intimated his hopes that the United States would acknowledge his people as a nation, and enter into a new treaty with him as its ruler.

All this was well and intelligently expressed by him, but the main subject of the conversation, which lasted for three hours, was his regret that he had ever permitted foreigners to interfere with his laws and municipal regulations, and had not rather allowed them to do their worst. The only justification he could offer to himself for his submission was, that by yielding he had saved much trouble and distress to others.

To return to the Laplace treaty. A commission has been sent to France with letters to its government, containing a statement of the transactions of which we have spoken, and asking that the commercial treaty might be annulled as injurious to the morals of his people, and the king expressed his hopes that this appeal to the magnanimity and moral sense of the French monarch would be successful.

With the Catholics, to whom this treaty has given free entrance, I had no direct intercourse. I saw however that they were zealous in their exertions to inculcate their peculiar tenets; they have already several places of worship, and were busy in erecting a large chapel of stone. All the chiefs, however, and the great body of the people, are still Protestants. The existence of two different creeds has caused some difficulties. One relating to the school system took place during the stay of our squadron; and another relative to marriages between native converts of different persuasions.

I cannot but indulge the hope, that the competition of the teachers of different creeds, if they be actuated by proper motives, will, by stimulating their efforts, tend to the improvement of education and the advancement of civilization. The Protestant missionaries have already done so much good, that it is much more a matter of wonder that there should be so many signs of piety, and so many instances of strict obedience to the moral law, than that vice and sensuality are still to be seen in existence in this community, so recently redeemed from barbarism.

Among the most obvious benefits of the missionary labours, are a code of laws and a written constitution; the last of which was promulgated on the 8th October, 1840. It is, no doubt, far from being perfect, but it is as much so as circumstances would permit, and is a proof of the sincerity of the interest the king and chiefs take in the welfare of those whom they govern; for in it they have made a willing sacrifice of their power to what they deem the general benefit of the nation.

I was furnished with a copy of this constitution by Mr. Richards, and I insert it, as perhaps the best mode of contrasting the present state of the Hawaiian people with that of the inhabitants of the other Polynesian islands, and of exhibiting the advance which they have made towards complete civilization.

## CONSTITUTION, LAWS, ETC.

### DECLARATION OF RIGHTS, BOTH OF THE PEOPLE AND CHIEFS.

"God hath made of one blood all nations of men, to dwell on the earth" in unity and blessedness. God has also bestowed certain rights alike on all men, and all chiefs, and all people of all lands.

These are some of the rights which he has given alike to every man and every chief of correct deportment: life, limb, liberty, freedom from oppression, the earnings of his hands and the productions of his mind; not, however, to those who act in violation of the laws.

God has also established governments, and rule, for the purpose of peace; but, in making laws for the nation, it is by no means proper to enact laws for the protection of the rulers only, without also providing protection for their subjects; neither is it proper to enact laws to enrich the chiefs only, without regard to enriching their subjects also; and hereafter there shall, by no means, be any laws enacted which are at variance with what is above expressed, neither shall any tax be assessed, nor any service or labour required of any man, in a manner which is at all at variance with the above sentiments.

### PROTECTION FOR THE PEOPLE DECLARED.

The above sentiments are hereby published for the purpose of protecting alike both the people and the chiefs of all these islands, while they maintain a correct deportment; that no chief may be able to oppress any subject, but that chiefs and people may enjoy the same protection, under one and the same law.

Protection is hereby secured to the persons of all the people, together with their lands, their building-lots, and all their property, while they conform to the laws of the kingdom; and nothing whatever shall be taken from any individual except by express provision of the laws. Whatever chief shall act perseveringly in violation of the constitution, shall no longer remain a chief of the Hawaiian Islands, and the same shall be true of the governors, officers, and all land agents.

But if any one who is deposed should change his course and regulate his conduct by law, it shall then be in the power of the chiefs to reinstate him in the place he occupied previous to his being deposed.

### CONSTITUTION.

It is our design to regulate our kingdom according to the above principles, and thus seek the greatest prosperity both of all the chiefs and all the people of these Hawaiian Islands. But we are aware that we cannot ourselves alone accomplish such an object. God must be our aid, for it is his province alone to give perfect protection and property. Wherefore we first present our supplication to him that he will guide us to right measures and sustain us in our work.

It is, therefore, our fixed decree:—

1. That no law shall be enacted which is at variance with the word of the Lord Jehovah, or at variance with the general spirit of his word. All laws of the island shall be in consistency with the general spirit of God's law.

2. All men in every religion shall be protected in worshipping Jehovah, and serving him according to their own understanding, but no man shall ever be punished for neglect of God, unless he injures his neighbour, or bring evil on the kingdom.

3. The law shall give redress to every man who is injured by another, without a fault of his own, and shall protect all men while they conduct properly, and shall punish all men who commit crime against the kingdom or against individuals; and no unequal law shall be passed for the benefit of one to the injury of another.

4. No man shall be punished, unless his crime be first made manifest, neither shall he be punished unless he be first brought to trial in the presence of his accusers, and they have met face to face, and the trial having been conducted according to law, and the crime made manifest in their presence, then punishment may be inflicted.

5. No man or chief shall be permitted to sit as judge or act on a jury to try his particular friend or enemy, or one who is especially connected with him. Wherefore, if any man be condemned or acquitted, and it shall afterwards be made to appear that some one who tried him acted with partiality, for the purpose of favouring his friend or injuring his enemy, or for the purpose of enriching himself, then there shall be a new trial allowed before those who are impartial.

### EXPOSITION OF THE PRINCIPLES ON WHICH THE PRESENT DYNASTY IS FOUNDED.

The origin of the present government and system of polity is as follows: Kamehameha I. was the founder of the kingdom, and to him belonged all the land from one end of the islands to the other, though it was not his own private property. It belonged to the chiefs and people in common, of whom Kamehameha I. was the head, and had the management of the landed property. Wherefore there was not formerly and is not now any person who could or can convey away the smallest portion of land without the consent of the one who had or has the direction of the kingdom.

These are the persons who have had the direction of it from that time down: Kamehameha II., Kaahumanu I., and at the present time Kamehameha III. These persons have had the direction of the kingdom down to the present time, and all documents written by them, and no others, are the documents of the kingdom.

The kingdom is permanently confirmed to Kamehameha III. and his heirs, and his heir shall be the person whom he and the chiefs shall appoint during his lifetime; but should there be no appointment, then the decision shall rest with the chiefs and House of Representatives.

### PREROGATIVES OF THE KING.

The prerogatives of the king are as follows. He is the sovereign of all the people and all the chiefs. The kingdom is his. He shall have the direction of the army and all the implements of war of the kingdom. He also shall have the direction of the government property, the poll-tax, the land-tax, the three days' monthly labour; though in conformity to the laws. He also shall retain his own private lands, and lands forfeited for the non-payment of taxes shall revert to him. He shall be the chief judge of the supreme court, and it shall be his duty to execute the laws of the land, also all decrees and treaties with other countries; all, however, in accordance with the laws.

It shall also be his prerogative to form treaties with the rulers of all other kingdoms, also to receive all ministers sent by other countries, and he shall have power to confirm agreements with them.

He shall also have power to make war in time of emergency when the chiefs cannot be assembled, and he shall be the commander-in-chief. He shall also have power to transact all important business of the kingdom, which is not by law assigned to others.

### RESPECTING THE PREMIER OF THE KINGDOM.

It shall be the duty of the king to appoint some chief of rank and ability to be his particular minister, whose title shall be Premier of the Kingdom. His office and business shall be the same as that of Kaahumanu I. and Kaahumanu II. For even in the time of Kamehameha I., life and death, condemnation and acquittal, were in the hands of Kaahumanu. When Kamehameha I. died, his will was, "The kingdom is Liho-liho's, and Kaahumanu is his minister."

That important feature of the government, originated by Kamehameha I., shall be perpetuated in these Hawaiian Islands, but shall always be in subserviency to the law.

The following are the duties of the premier:

All business connected with the special interests of the kingdom, which the king wishes to transact, shall be done by the premier under the authority of the king. All documents and business of the kingdom, executed by the premier, shall be considered as executed by the king's authority. All government property shall be reported to him (or her), and he (or she) shall make it over to the king.

The premier shall be the king's special counsellor in the great business of the kingdom.

The king shall not act without the knowledge of the premier, nor shall the premier act without the knowledge of the king, and the veto of the king on the acts of the premier shall arrest the business. All important business of the kingdom which the king chooses to transact in person, he may do it, but not without the approbation of the premier.

## GOVERNORS.

There shall be four governors over these Hawaiian Islands—one for Hawaii, one for Maui and the islands adjacent, one for Oahu, and one for Kauai and the adjacent islands. All the governors, from Hawaii to Kauai, shall be subject to the king.

The prerogatives of the governors and their duties, shall be as follows. Each governor shall have the general direction of the several tax-gatherers of his island, and shall support them in the execution of all their orders which he considers to have been properly given, but shall pursue a course according to law, and not according to his own private views. He also shall preside over all the judges of his island, and shall see their sentences executed as above. He shall also appoint the judges and give them their certificates of office.

All the governors, from Hawaii to Kauai, shall be subject not only to the king but also to the premier.

The governor shall be superior over his particular island or islands. He shall have charge of the munitions of war, under the direction of the king however, and the premier. He shall have charge of the forts, the soldiery, the arms, and all the implements of war. He shall receive the government dues, and shall deliver over the same to the premier. All important decisions rest with him in times of emergency, unless the king or premier be present. He shall have charge of all the king's business on the island, the taxation, new improvements to be extended, and plans for the increase of wealth; and all officers shall be subject to him. He shall also have power to decide all questions, and transact all island business which is not by law assigned to others.

When either of the governors shall decease, then all the chiefs shall assemble at such place as the king shall appoint, and shall nominate a successor of the deceased governor; and whosoever they shall nominate and be approved by the king, he shall be the new governor.

### RESPECTING THE SUBORDINATE CHIEFS.

At the present period, these are the persons who shall sit in the government councils: Kamehameha III., Kekauluohi, Hoapiliwahine, Kuakini, Kekauonohi, Kahekili, Paki, Konai, Koahokalola, Leleiohoku, Kekuanaoa, Kealiiahonui, Kanaina, Keoni Ii, Keoni Ana, and Haalilio. Should any person be received into the council, it shall be made known by law. These persons shall have part in the councils of the kingdom. No law of the nation shall be passed without their assent. They shall act in the following manner: they shall assemble annually, for the purpose of seeking the welfare of the nation, and establishing the laws of the kingdom. Their meetings shall commence in April, at such day and place as the king shall appoint.

It shall be proper for the king to consult with the above persons respecting all the great concerns of the kingdom, in order to promote unanimity and secure the greatest good. They shall moreover transact such other business as the king shall commit to them.

They shall still retain their own appropriate lands, whether districts or plantations, in whatever divisions they may be, and they may conduct the business on said lands at their discretion, but not at variance with the laws of the kingdom.

### RESPECTING THE REPRESENTATIVE BODY.

There shall be annually chosen certain persons to sit in council with the chiefs and establish laws for the nation. They shall be chosen by the people, according to their wish, from Hawaii, Maui, Oahu, and Kauai. The law shall decide the form of choosing them, and also the number to be chosen. This representative body shall have a voice in the business of the kingdom. No law shall be passed without the approbation of a majority of them.

### RESPECTING THE MEETINGS OF THE LEGISLATIVE BODY.

There shall be an annual meeting as stated above; but if the chiefs think it desirable to meet again, they may do it at their discretion. When they assemble, the nobles shall meet by themselves, and the representative body by themselves, though at such times as they shall think it necessary to consult together, they may unite at their discretion.

The form of doing business shall be as follows: the nobles shall appoint a secretary for themselves, who at the meetings shall record all decisions made by them; and that book of records shall be preserved, in order that no decrees affecting the interests of the kingdom shall be lost.

The same shall be done by the representative body. They too shall choose a secretary for themselves; and when they meet for the purpose of seeking the interests of the kingdom, and shall come to a decision on any point, then that decision shall be recorded in a book, and the book shall be preserved, in order that nothing valuable affecting the interests of the kingdom, shall be lost; and there shall be no new law made without the approbation of a majority of the chiefs, and also a majority of the representative body.

When any act has been agreed upon by them, it shall then be presented to the king, and if he approve and sign his name, and also the premier, then it shall become a law of the kingdom; and that law shall not be repealed until it is done by the voice of those who established it.

### RESPECTING THE TAX OFFICERS.

The king and premier shall appoint tax officers and give them their certificates of office. There shall be district tax officers for each of the islands, at the discretion of the king and premier.

When a tax officer has received his certificate of appointment, he shall not be dismissed from office without first having a formal trial, and having been convicted of fault, at which time he shall be dismissed. Though if the law should prescribe a given number of years as the term of office it may be done.

The following are the established duties of the tax officers. They shall assess the taxes, and give notice of the amount to all the people, that they may understand in suitable time. The tax officers shall make the assessments in subserviency to the orders of the governors, and in accordance with the requirements of the law. And when the taxes are to be gathered, they shall gather them, and deliver the property to the governor, and the governor shall pay it over to the premier, and the premier shall deliver it to the king.

The tax officers shall also have charge of the public labour done for the king, though if they see proper to commit it to the land agents, it is well; but the tax officers being above the land agents, shall be accountable for the work. They shall also have charge of all new business which the king shall wish to extend through the kingdom. In all business, however, they shall be subject to the governor.

The tax officers shall be the judges in all cases arising under the tax law. In all cases where land agents or landlords are charged with oppressing the lower classes, and also in all cases of difficulty between land agents and tenants, the tax officers shall be the judges, and also all cases arising under the tax law enacted on the 7th of June, 1839.

They shall, moreover, perform their duties in the following manner. Each tax officer shall be confined in his authority to his own appropriate district. If a difficulty arises between a land agent and his tenant, the tax officer shall try the case, and if the tenant be found guilty, then the tax officer, in connexion with the land agent, shall execute the law upon him. But if the tax officer judge the land agent to be in fault, then he shall notify all the tax officers of his particular island, and if they are agreed, they shall pass sentence on him, and the governor shall execute it. But in all trials, if any individual take exception to the decision of the tax officer, he may appeal to the governor, who shall have the power to try the case again, and if exceptions are taken to the decision of the governor, on information given to the supreme judges, there shall be a new and final trial before them.

### OF THE JUDGES.

Each of the governors shall, at his discretion, appoint judges for his particular island, two or more, as he shall think expedient, and shall give them certificates of office. After having received their certificates, they shall not be turned out except by impeachment, though it shall be proper at any time for the law to limit the term of office.

They shall act in the following manner. They shall give notice beforehand of the days on which courts are to be held. When the time specified arrives, they shall be the judges in cases arising under the laws, excepting those which regard taxation, or difficulties between land agents, or landlords and their tenants. They shall be sustained by the governor, whose duty it shall be to execute the law according to their decisions. But if exceptions are taken to their judgment, whosoever takes them, may appeal to the supreme judges.

### OF THE SUPREME JUDGES.

The representative body shall appoint four persons whose duty it shall be to aid the king and premier, and six persons shall constitute the supreme court of the kingdom.

Their business shall be to settle all cases of difficulty which are left unsettled by the tax officers and common judges. They shall give a new trial according to the conditions of the law. They shall give previous notice of the time for holding courts, in order that those who are in difficulty may appeal. The decision of these shall be final. There shall be no further trial afterwards. Life, death, confinement, fine, and freedom from it, are all in their hands, and their decisions are final.

### OF CHANGES IN THIS CONSTITUTION.

This constitution shall not be considered as finally established until the people have generally heard it, and have appointed persons according to the provisions herein made, and they have given their assent; then this constitution shall be considered as permanently established.

But hereafter, if it should be thought desirable to change it, notice shall be previously given, that all the people may understand the nature of the proposed change, and at the succeeding meeting of the chiefs and the representative body, if they shall agree as to the addition proposed, or as to the alteration, then they may make it.

The above constitution has been agreed to by the chiefs, and we have hereunto subscribed our names, this eighth day of October, in the year of our Lord eighteen hundred and forty, at Honolulu, Oahu.

(Signed) Kamehameha III.
Kekauluohi.

The code of laws is now administered with firmness and a promptitude that gives them great effect, and of this we had an instance while we remained at Honolulu.

A night or two after our arrival, I was awakened by one of the most startling and mournful sounds I ever heard, which lasted all night, and disturbed the whole town of Honolulu. It brought back to my mind the idea that I was still among savages, which the impressions I had received within the last few days had in a measure dissipated. This sound proved to be the wailing over Kamakinki, the wife of a chief of high rank. Strong suspicions being entertained of her having been poisoned by drinking ava, which her husband, Kamanawa, had prepared for her, he was apprehended, together with an accomplice, whose name was Sono. Three days after their arrest, they were put under trial before Kekuanaoa, the governor, as presiding judge, and a jury of twelve Hawaiians. On being brought to the stand they were examined against themselves, and confessed on interrogation; for the Hawaiian law permits this, and such confessions are esteemed as good testimony. They were found guilty by the jury, and Sono confessed on the trial that he had committed one other murder.

The facts in relation to the murder of the chief's wife were as follows.

The husband and wife had been for some time separated, because the chief wished to marry another woman, for whom he had formed a strong attachment. Having already one wife, this was forbidden by the law, and he in consequence determined to rid himself of her. For this purpose he applied to Sono, who was said to be well acquainted with poisons. He found Sono in the same position as himself, and they both agreed to destroy their wives. Accordingly, a seeming reconciliation was brought about, and they met at the house of a son-in-law of Kamakinki to celebrate it by drinking ava. Two bowls of the liquor were prepared, the one unadulterated, the other mixed with poison composed of Tephrosia piscatoria, Daphne indica, and the leaves of a common gourd (Lagenaria). From the first of these the company drank, but when Kamakinki called for her share, which was handed to her by Kamanawa her husband, she, after taking a few mouthfuls, complained of its bitterness. On asking if the other cups had tasted so, and being answered in the negative, she at once accused her husband of having poisoned her.

The proof would have been ample without the confession of the guilty parties, for a post-mortem examination had taken place, which proved conclusively that the death had been the result of poison. The parties, however, both made a full and corresponding confession. It was stated by Kamanawa, the husband, that Sono, on receiving his application, at once said that he had a drug that would destroy life. On his expressing some doubts, Sono told him that he had already proved it in three cases. When Kamanawa drugged the ava, he had doubts whether it would prove effective, but was glad to find it so.

The prisoners were allowed counsel, and the whole proceedings were conducted in a becoming manner. The charge of the judge to the jury was clear and forcible. The king and several high chiefs were present, and as Kamanawa was a great favourite of the king, it was supposed by many that a pardon would be extended to him, this being the first case in which the sentence of the law had been passed on one of so high a rank. But there was no pardon, and the criminals were hung on the 20th of October, on the walls of the fort, the king having gone some days previously to Lahaina. The concourse of people at the execution was very large, and the prisoners were attended by the missionaries. There was none of that eager curiosity, rushing, and crowding, that is to be observed at home on an occasion of the kind, and no noise or confusion. All present were decently dressed and well behaved, but they did not seem impressed with the solemnity of the scene. It was estimated that ten thousand persons, from all parts of the island, were present. I was in hopes that the law would have been put into execution within the fort, and not on the walls, thus making it a private instead of a public execution. I had much conversation relative to this subject with the authorities, but I thought the disposition was to make it a matter of parade rather than otherwise. The criminals showed no manner of contrition for their foul crimes, but evinced a hardihood in unison with the deed for which they suffered the penalty of the law.

There are no persons to whom the old adage of "murder will out" will more justly apply, than to these natives; they cannot keep a secret, and when once a crime is perpetrated, it is not long before it becomes known to the public; they will even tell against themselves, however certain the punishment may be. In this respect, nearly all the Polynesian nations are alike. It was perhaps not to be expected that much feeling should be shown on an occasion of the kind among a half-civilized nation, who had formerly been in the habit of seeing death frequently administered by the hands of the assassin, acting by the order of the chiefs; yet I was not prepared to see so quiet and indifferent a demeanour. The son of Kamanawa, who is an extremely fat youth, and one of the best swimmers and divers in the port, spoke of the execution of his father without any apparent feeling.

The immense advance which has been made by the Hawaiians in civilization, will be best appreciated by the contrast which the foregoing constitution exhibits to the ancient usages and mode of government of this group. As, however, many points in the early history of these islands have been fully illustrated by other writers, I shall content myself with a general view of such facts as may serve for the basis of a comparison between the past and present condition of the Hawaiians, and between their usages and customs and those of the other groups of Polynesia. On these points I have endeavoured to obtain the most correct information, and have been fortunate in receiving it from the highest and most authentic sources.

In former times there were no fixed laws of succession to the throne, and the practice in relation to it varied. It was, however, the general usage that the crown should descend, on the death of a sovereign, to one of his children, sons being preferred to daughters, and the rank of the mother being taken into consideration, as well as priority of birth. Thus Kamehameha I. had children by several wives, but his eldest son, as well as a daughter, were superseded by the children of another wife of more elevated birth. Even if a sovereign had sons by females of low origin, a daughter might succeed, if her mother were of very elevated rank.

A case of this sort had occurred two generations prior to the discovery of the island, when the throne was held by Queen Keokeolaui, who had several half-brothers, but they were of lower rank on the mother's side. There have been only two instances of the accession of females to the supreme power, Keokeolaui, and Laca, of still greater antiquity.

Exceptions sometimes were made to the regular descent, by the conceded right of the sovereign to name his successor; and, in consequence, it has sometimes been willed to a younger instead of the elder son, of the same mother, and sometimes to a member of another family. Where special reasons existed for such a course, it was generally concurred in by the chiefs. But these rules were often set aside, and personal valour decided the point. Kamehameha I. was an instance of this kind.

A chief of inferior rank stood little chance of attaining the royal dignity, however highly he might be endowed; but even the lawful heir, if a weak and pusillanimous man, was sure to be supplanted by a chief better qualified. Thus, in consequence of their being many different aspirants for the high office, the death of a king was always the signal for a civil war.

During the life of a king he generally signified his wish in relation to the descent of the crown, and often a council of chiefs was called upon the subject. If they all concurred, it put a stop to any difficulties, and the party nominated succeeded to the kingdom without disturbance.

If the king married a low woman, the right of her children to the crown was always disputed. Hence it was considered of great importance that the wife of the king should be of as high blood, if not higher, than any other female in the nation. For this reason, if there were several women of the same rank, the king felt it important to secure them all as his wives, in order that there might be no competition, on the ground of rank, for the kingdom after his death. On this account Kamehameha had five wives at the same time. In order to prevent the existence of competitors, it was often thought expedient for the kings to marry their own sisters, although this incestuous intercourse is, in other cases, contrary to the customs, habits, and feelings of the people. The offspring of such a union was deemed of the highest possible rank.

It is said the present king was desirous of marrying his own sister, Nahienaena, but that this was prevented by the missionaries.

The public feeling was so strong against the king's having heirs by a woman of inferior rank, that it often caused the children to be put to death in infancy by the high chiefs, in order to avoid any of them laying claim to the throne, or to a higher rank than they were willing to allow them.

Illegitimate children of the king were almost sure to be put to death in infancy, and sometimes by order of the father.

The rank of a woman was not materially altered by her marriage to the king. She acquired no authority in the government, and no special rights or privileges, but usually received a present of lands from the king, to be held during his lifetime. On his death, her right to them ceased, although they might, through courtesy, be left in her possession. It will easily be understood, that when a chief has a wife of the highest rank and purest blood, he is naturally an object of jealousy and distrust to the reigning house.

Under the new constitution the descent is regulated, as has been seen, but great latitude of choice is allowed. The king's heir shall be the person whom the king and chiefs may appoint during his lifetime. If there should be no appointment, then the chiefs and House of Representatives shall exercise it; and I found it the prevailing opinion that their former customs would have much weight in their decision.

The next heir to the throne has already been chosen, in the person of Prince Alexander, the third son of Kinau, and grandson to Kamehameha I. In this choice his two elder brothers, who are quite as intelligent, have been passed over. The king is married to the daughter of a petty chief. It was a match of affection, and they have no children; but should he have an heir, it is thought that, notwithstanding their former customs, the low rank of his wife, and the choice already made, her child would inherit.

The government, so far as one was established in past times, was mainly of a feudal character, and vested in the various ranks of landlords, the king being considered as the head. The power of each particular chief was, in most cases, supreme over his own immediate vassals or tenants, and this power was not entirely confined to his own dependants. The chiefs having a common interest in preserving their power, showed great politeness and respect towards each other, so much so that they felt themselves at liberty to call upon the dependants of another without the fear of giving offence: this operated to the disadvantage of the people, for instead of serving but one master they were subject to several.

As a general rule, however, the authority descended in the scale of rank, rising from the lowest class of servants to tenants, agents, landholders, land-owners, petty chiefs, high chiefs, and the king, each one ruling according to his own understanding, or that of his superiors. Of course, civil rights could not be expected under such a state of things, nor were any acknowledged to exist. Some general rules seem to have had place, and when they were infringed, the offender was punished, particularly if the crime was of an aggravated nature.

Murder was punished by death; and in the time of Kamehameha I. repeated instances of this crime and its punishment occurred.

Grand larceny was also a capital offence, provided the injured person had power to execute the law; the king and chiefs not unfrequently espoused the cause of the injured party, and inflicted the punishment.

Adultery was likewise often punished by death, and, in a celebrated case, Kamehameha called upon his highest chiefs to act as executioners.

The taboo, or sacred law, restrained and regulated, in a considerable degree, the will of those in authority, although it was in other respects very oppressive to the people. A chief, who was a notorious violator of taboo, soon became unpopular, and was eventually supplanted by some other who stood in higher estimation.

As far as there was any system in their government, it was deeply interwoven with their religious taboos, and partook of law, custom, and will. The taboos that were fixed may be considered as embraced in the first; the second was founded on their superstitions; and the last on the power the chiefs had to enforce them. Thus, no kings have been thought to have governed exclusively by will and taboos; custom and the fear of other chiefs had placed many restraints on them. Among these was the influence of a certain class of men whose business it was to give instruction, and rehearse the proverbs handed down from their ancestors. These men often prophesied that judgment would follow if these were neglected; but, notwithstanding, as may readily be supposed, bad rulers contrived to evade the taboos and rules, and the people had no means of redressing their grievances but by rebellion, and placing other chiefs in their stead.

There were means used to publish the laws. Kamehameha was very particular in this respect; and there appears to have been no complaint that he had ever violated them himself.

From the earliest periods of Hawaiian history, the tenure of lands has been, in most respects, feudal. The origin of the fiefs was the same as in the northern nations of Europe. Any chieftain who could collect a sufficient number of followers to conquer a district, or an island, and had succeeded in his object, proceeded to divide the spoils, or "cut up the land," as the natives termed it.

The king, or principal chief, made his choice from the best of the lands. Afterwards the remaining part of the conquered territory was distributed among the leaders, and these again subdivided their shares to others, who became vassals, owing fealty to the sovereigns of the fee.

The king placed some of his own particular servants on his portion as his agents, to superintend the cultivation. The original occupants who were on the land, usually remained under their new conqueror, and by them the lands were cultivated, and rent or taxes paid.

This division was often a work of great difficulty. In spite of any wisdom and skill that could be exercised, it was no easy matter to satisfy every one that the division had been fairly and equally made, and before the business was finished, difficulties often arose, which ended in some cases in rebellion, and in others in open war. When every thing could be settled amicably, the whole body of retainers became bound up with the interest of the king, having every inducement to support him, for their property became safe or uncertain in proportion as his authority was upheld. These landholders were the persons on whom the king could call and rely on to support him in his difficulties, aid him in his plans, or fight his battles.

The manner in which these divisions took place, shows more system than appears to have been practised in any other group in Polynesia.

| | |
|---|---|
| An Island was divided | into Mokus. |
| Mokus | " Thalanas, or counties. |
| Thalanas | " Ahupnaas, or townships. |
| Ahupnaas | " Ilis, or plantations. |
| Ilis | " Moos, or small farms. |

One of the latter divisions was frequently the property of a single person, and instances occurred where all the moos which composed an ili, were possessed by one individual.

Every feudatory was bound to his particular land-owner, after the same manner as the chief or land-owner was bound to the king; and thus a feudal connexion was established between the king and his lowest subject, by which tie the society or clan was held together.

The king and chiefs having power even to depriving a chief not only of his rank, but also of his possessions, had complete control over the whole, and had them firmly bound to their purposes.

This was the only system of government known to the Hawaiians, and even the older chiefs cannot be persuaded that authority or government can be successfully maintained by any other means. Their argument is, "If they cannot take the people's lands away from them, what will they care for their authority?"

But, what appears extraordinary, this bond was more often severed by the superiors than by their vassals, notwithstanding the landlord had not only a right to require military service, to tax his particular tenants at pleasure, and demand other things, among which might be daily labour in any or every kind of employment, so that a labourer seldom received on an average more than one-third of the value of his work, while the different chiefs pocketed the rest. But this was not all; even this portion of one-third was not secure, for they had no line of demarcation by which the tenant could separate the profits of his labour from the property of his chief; and if he by any chance was industrious, and brought his farm into a good state of cultivation, he was at once marked out as a subject for taxation. No tenant, in short, could call any thing he had his own. Favouritism, jealousy, and fickleness of character were so general, that no landholder could consider himself sure of the fruits of his own exertions, and therefore would make no improvements, and even ridiculed the idea of attempting them.

These exactions came so heavily at times from particular chiefs, that the landholders found it necessary, in order to avoid starvation, to hold lands at the same time under different chiefs, so that their chance might be greater of retaining a portion, and that the necessities of one of them could not entirely sweep away the whole.

All that restrained a chief in demanding taxes or from dispossessing his tenants was a certain sense of propriety, which forbade the ejection of the actual cultivator of the land, notwithstanding the changes which might take place above him, so that those possessing the moos were seldom disturbed. Self-interest must have pointed out this course to the chiefs, and it not only prevented distress throughout the different islands, but mitigated the evils of the frequent changes that were occurring from one cause or another. The dispossessing a tenant of his lands, also took away nearly all the personal property which might have been acquired from them, either directly or indirectly.

The greatest confusion and changes took place at the deaths of the chiefs or landholders, the right of the fief descending to heirs, who, as a matter of course, had followers of their own, and almost invariably dispossessed the old agents and put their own favourites in their places.

On the death of a king, these changes of course affected the whole kingdom; and on the demise of a chief, whatever territory had been subject to his sway. Under the present government the feudal tenure still exists, but it is greatly modified.

The new laws define the rights of the different classes, and prescribe the rules by which each class shall be governed.

Officers are also appointed to see that the regulations are observed, and to assess damages according to law when the rights of one class are invaded by those of another.

No tax can be now laid, neither can any property be seized, not even by the king, except by express provision of the law, and no landlord dispossesses his tenants of their fief. The right of tenure is declared perpetual, except being subject to forfeiture for non-payment of rent. The right to fix the amount of rent is regulated by law, and the people have a voice in the legislature, so that no new tax can be laid without the assent of their representatives.

These are great modifications, which one would suppose must have been found immediately effective; but the evils intended to be remedied are but partially removed, owing to the fact that the officers who are employed are ignorant, and fear to thwart the interests of the chiefs and others. These evils, as the natives improve and become more familiar with their laws and rights, must entirely vanish. Even if the abuses should continue, they can be of no great extent, for the number of the superior lords of the soil is reduced to two, of whom one is the king.

The taxation under the old kings was sufficiently regular; it was annually assessed by the king's agents appointed for that purpose, and fluctuated but little. It did not extend below the ilis or plantations, which were taxed as follows:

One hog,
" dog,
" fish-net.
" fishing-line,
" cluster of feathers.

Twenty tapas, a part square, and a part long and narrow: the square tapas were those used for their sleeping and screens, the long and narrow ones for female dresses.

The size of the hog, dog, &c., varied according to the size of the ili. The taxes were paid into the hands of the immediate superior, and so on until they reached the king, before whom they were exhibited in a large heap. In this mode of transmission, opportunities for holding back a large amount were afforded.

Besides this tax for the maintenance of the king, there were customs and rules which made it necessary to make presents to the king, especially when he was travelling, at which times himself and retinue were to be supported by presents from the people. This might be considered a forced tax, for, if sufficient supplies were not furnished, the inhabitants suffered every kind of extortion from the king's attendants; and one may have some idea of the extent of these requisitions, when informed that the king's party sometimes consisted of upwards of a thousand persons. Another direct tax was imposed on the work of the people, the king having a right to call out all classes of the community to perform any kind of labour he might desire; nor was there any limit as to the amount of time, or any rules for fixing it.

The manner in which the notice of a call for labour was made, was for the king to give his orders to a chief of rank, who issued his directions to other chiefs, and so on until it reached the lowest tenant. If the work was of any magnitude, such as building temples, or labour in honour of the dead, then the king issued his order to all the chiefs of rank, and it thence extended to the people. In such cases the highest persons in the nation, both male and female, were to be seen carrying stones on their shoulders, and engaged in other kinds of labour.

After they had intercourse with foreigners, the mode of taxation became changed, and its amount was somewhat increased.

In the case of furnishing sandalwood, the burden became at last quite irksome and severe. It is calculated that the traffic in this article lasted about thirty years, and yielded in that time upwards of one million of dollars. It is considered fortunate that the supply has become exhausted, as the collection of this wood was the most onerous of all the ways in which the chiefs exacted taxes from the people. The trade in sandalwood was likewise carried on in shares, and therefore, that gathered by taxation was but a moiety of that which has been derived from these islands.

There was yet another mode of taxation practised until a year or two before our visit; this was by a duty on so much of the produce of the islands as was carried to market. At Honolulu this amounted to one-half, but at other places less frequented it was not as heavy. Besides this, a tax was levied on trades, such as the house-builders, &c., and even on those who washed clothes.

The tax on land was sometimes collected in money, the poll-tax always. One year the government received twenty-five thousand dollars; but I understood that usually it was about half that sum. These were government taxes; but the chiefs regulated their possessions in the same manner, and so it continued throughout down to the petty chiefs. It is not probable that any one could evade the host of tax-gatherers; indeed, no valuable article could be held by the lower classes; for if not directly falling under some of the heads of taxation, a mode would be devised by some one of their superiors to enable him to take it, or persuasion was resorted to, until it was given up to satisfy the demands.

From this, it naturally resulted, that none of the lower orders, even if they were able, would live in a large house, cook a large hog, fish with a large net, or wear a dress of good cloth.

The lower order of chiefs, not unfrequently, made use of the king's name to obtain the articles they wanted. This was done by spreading a report that the king was about to a visit a place, which at once put the whole community in a stir to build houses for him; hogs and all articles necessary for his entertainment would be collected, and they even went so far at times as to cook some of the provisions. The king not arriving, the head men, of course, appropriated the houses, provisions, &c., enjoying themselves quite in royal style.

Thanks to the enlightening influence of the missionaries, this whole system of taxation has gone into disuse, and the right to tax the people is confined to the government, in which the people themselves have a voice. The only tax that is left to chiefs and landlords is one of labour; this is now limited to three days in a month, and the tenants may commute it for four dollars and a half a year.

In the laying of the taxes, it has been thought advisable to have them all estimated in money, although they are paid in a variety of ways. They are assessed on the polls and on lands. The manner of the assessment varies. In the first year it was made heavier on the polls than on the lands. The poll-tax must be paid in money; and if not paid at the time, it must be paid in double the amount of produce. This will show the dependence they place on the facility of gaining returns. The land-tax may be paid in produce at market prices.

Most of the land-tax is now paid in hogs, which it is found can be turned to very little advantage, as there is not much demand for them. The rate of the poll-tax, from year to year, according to their present law, is—

| | |
|---|---|
| For able-bodied Men, | 75 cents. |
| Women, | 37 " |
| Boys, | 18 " |
| Girls, | 9 " |

The land-tax is assessed, as formerly, on each ili. The amount varies from two and a half to ten dollars. The size of an ili may be understood by its being capable of supporting about thirty people.

The present rate of taxation of every kind is believed to amount, on a fair estimate, according to the government, to about eleven dollars and fifty cents on a family, consisting of two adults and two children; of this amount it is supposed that nine dollars is paid in labour, one in produce, and one dollar and fifty cents in money.

The real revenue of the government falls far short of this, not amounting to more than fifty thousand dollars annually, when, according to the above data, it ought to be more than three hundred thousand dollars.

Thus there appears to be a defect in the system, which is well known to the king and chiefs. Mr. Richards believes that it is owing to the want of a circulating medium, and the receiving those kinds of articles that are not available in the market for cash. The fifty thousand dollars goes to the petty chiefs and to the payment of rents, &c., leaving only about fourteen thousand dollars as the actual income of His Majesty Kamehameha III.

There are many persons who are excused from paying taxes. Thus, all fathers who have three children whom they support, are freed from the labour-tax.

If a man has four children, he is then freed from labour-taxes both to the king and his landlord.

If he has five, he is freed from the poll-tax.

If six, he is freed from all taxation whatever.

All old persons, and all who are sickly and feeble, all teachers of schools and pupils in schools where the higher branches are taught, are exempt from taxation, unless the pupils are landholders, when they pay the land-tax.

The statistics of crime which they have are of no value, for they have kept no regular record. I understood that some of the chiefs had kept records of the sentences that had been passed; but they were so vague, so isolated, and so defective, as to be unworthy of confidence.

All high crimes have usually been punished with death. This was, however, previous to 1824. The executions were more like assassinations than judicial punishments. Formerly among a chief's retinue were executioners, called ili-muku, to whom the business of punishing capitally was committed. These persons became well known to the people, and as no trials or any sentences were promulgated, even to see these men abroad created general consternation, as the people knew not where the blow was to fall, and all those who were conscious of having committed any offence against the king considered themselves in great peril. The victims were usually attacked in the night, without giving them any warning, with clubs and stones. Such was the fear entertained of the king's authority, that even if the executioners were discovered, the nearest friends did not dare to give warning, or assist in resisting them.

Those who had violated the religious taboos were seized, either secretly or open, by the officers of the priests, and carried to the temple, where they were stoned, strangled, or beaten to death with clubs, and then laid on the altar to putrefy. These constituted the great majority of executions in former times; some indeed, were by order of the chiefs, and in conformity to their rules of avenging private wrongs.

A high chief, Kanihouni, was sentenced by Kamehameha to be put to death. As he was possessed of great power and influence, many precautions were taken to quell any rebellion that might arise from the attempt. He was executed in the following manner. The king caused a number of soldiers to be armed, who were concealed in a neighbouring house; he then sent a silver coin to Pitt (Kalanimoku), who, having heard of the crime committed by Kanihouni, immediately understood the secret signal. He at once repaired to the king's house, where he received his orders, and several of the high chiefs were also ordered to aid him in the execution.

Kamehameha I. was greatly importuned to grant a pardon to Kanihouni, for all the higher chiefs were his relations; but he was inexorable, and finally threatened them, if his orders were not carried into effect, he would cause some of them to be substituted instead of the criminal.

The chiefs, finding that entreaty was in vain, went openly to the house of Kanihouni, and put him to death in a very unusual manner. A rope being put around his neck, and the ends of it being passed through the opposite sides of the house, they took hold of them and strangled him.

After the introduction of edged tools, and especially axes, beheading secretly in the night became a common form of execution. The last instance of this occurred in 1822.

The king sent an ili-muku in the night, who found the criminal fast asleep, his wife by his side; and it is said that the ili-muku gently pulled the woman's head on one side, and with a broadaxe instantly severed the head of the husband from his body.

In 1824, an officer at Hawaii was guilty of high treason in attempting to give up the fort (in which he was serving) to the rebels. By the order of Kalanimoku, he was taken on board a vessel, under pretence of being sent to Oahu; during the passage, at night, he was taken on deck, stabbed, and thrown overboard. This is said to have been the last punishment in the form of assassination. Since then, capital offences have been regularly tried by jury, and executions have been by hanging, of which the first instance was in 1826.

The whole number of executions for murder since 1826, have been as follows:

| | |
|---|---|
| On Kauai | 3 |
| Oahu | 7 |
| Maui | 2 |
| Hawaii | 1 |
| In all | 13 |

Besides another murder on Hawaii, in which the culprit committed suicide; thus averaging one a year in the whole group, besides two cases of manslaughter.

The mythology of the Hawaiians is extensive and complicated; but their gods are fast being forgotten, and few are willing to spend much time in attending to them. Little information on this subject is to be derived from any one with whom I had an opportunity of conversing. What is known is contained in published accounts.

Traditions were extremely numerous, and many have been already published in the Hawaiian Spectator.

The Hawaiians appear to have but little knowledge of astronomy. Hoapili, who died a short time before our arrival, was accounted one of their most skilful astrologers. They had some knowledge of the planets, with five of which they were acquainted, viz.: Mercury (Kawela), Venus (Naholoholo), Jupiter (Hoomanalonala), Mars (Holokolapinaau), Saturn (Mukula). There was a class of persons whose employment was to watch the motions of the stars, and who from practice became tolerably accurate observers of many celestial phenomena. They were in the habit of telling the hour of the night quite as correctly as they did the hour of the day by the sun. This remark applies more particularly to the fishermen and those who were employed during the night.

It was by the particular position of the planets (or "wandering stars") in relation to certain fixed ones, that their soothsayers grounded their predictions of the fate of battles, and the success of all enterprises.

The contiguity of the planets to certain fixed stars and constellations, some of which had names, foretold the speedy death of some chief. The goddess of volcanoes (Pele) was supposed to hold intercourse with the travelling stars, and from their movements hers were oftentimes predicted.

The motions of the stars in the vicinity of the north pole attracted much of their attention, and was often a subject of discussion among their astrologers. These they designated as the regular travelling stars, the planets were the wandering ones.

Of the true motions, they had no knowledge whatever. Their best chronologists measured time by means both of the moon and fixed stars. The year was divided into twelve months, and each month into thirty days. They had a distinct name for each of the days of the month. The following is a copy of the Hawaiian calendar.

MONTHS.

| | |
|---|---|
| Ikuwa | January. |
| Waileku | February. |
| Makalii | March. |
| Kaelo | April. |
| Kaulua | May. |
| Nana | June. |
| Welo | July. |
| Ihiki | August. |
| Kaaona | September. |
| Kinaiaelele | October. |
| Hilinehu | November. |
| Helenama | December. |

DAYS.

1. Hilo, day of new moon.
2. Hoaka.
3. Kukahi.
4. Kulua.
5. Kukolu.
6. Kupau.
7. Olekukahi.
8. Olekulua.
9. Olekukolu.
10. Olepau.
11. Huna.
12. Mohalu.
13. Hua.
14. Akua.
15. Hoku.
16. Mahealaui.
17. Kulu.
18. Laaukukahi.
19. Laaukulua.
20. Laaupau.
21. Olekukahi.
22. Olekulua.
23. Olepau.
24. Kaloakukahi.
25. Kaloakulua.
26. Kaloapan.
27. Kaue.
28. Lono.
29. Mauli.
30. Muku.

The names of the months were not the same at all the islands, but those of the days were.

On the island of Hawaii, to each month was assigned a particular business, as follows:

1. Naua,
2. Welo, } Months for war.
3. Ikikiki,
4. Kaona, taboo the opelu.
5. Hinaiaeleele, catch the opelu.
6. Hilinehu,
7. Hilinama, } Taxing months.
8. Ikuwa, prayers, games, and dissipations.
9. Wailehu, annual feast, and pay taxes.
10. Makalii, idols carried around the island; demanding taxes.
11. Kaelo (January), offerings for the dead; catch boneta.
12. Kaulau, fishing boneta.

Farming was carried on at all seasons of the year.

It is not a little singular that two islands so closely in the vicinity of each other as Hawaii and Maui, both speaking the same language, should have had their monthly calendar varying nearly two months.

With regard to the days, they commenced numbering them on the first day the new moon is seen in the west.

This made it necessary for them to correct their reckoning every two or three months, and reduce their year to twelve lunations instead of three hundred and sixty-five days. The difference between the sidereal and lunar year they are said to have discovered, and to have corrected their reckoning by the stars, for which reason in practice their years varied, some containing twelve and others thirteen lunations.

They likewise applied corrections to their months, giving them twenty-nine and thirty days. Although this caused many breaks in their system, yet their chronologists could always tell the name of the day and month on which any great event had occurred; and it is easy to reduce their time to ours, except when the change of the moon takes place about the middle of our calendar months, when there is a liability to a mistake of a whole month. Another error is apt to occur in the uncertainty of the day when the moon is discovered in the west. It may readily be conceived that their own method did not tend to much accuracy, as they had to rely entirely upon their memories.

Eclipses were thought to be an attack on the sun and moon, by the gods, and presaged a war or some other disaster.*

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* In Appendix III. will be found an account of their heathen gods, and the ceremonies attendant on the consecration of their heiaus.

They thought that much of their success depended on working in unison with the heavenly bodies; yet, as I before said, they had not the slightest notion of the most simple astronomical calculation.

The first little book published that contained some of the true principles of astronomy, awakened their surprise very much; and the almanac published afterwards by the mission, predicting the phases of the moon, eclipses, tides, &c., excited in them great interest, and as was natural, raised the missionaries very much in their estimation.

They were very slow in adopting the idea of the earth being round, and Hoapili was known to have argued the point with many of them, insisting on their not being too precipitate in condemning the foreign theory, as he himself was aware that in some of his fishing excursions, he had observed that the beach was always lost sight of first.

There is proof, however, of their connecting the action of the tide with the moon, and from her appearance they were able to tell the state of the tides.

In their navigation they never, if they could avoid it, subjected themselves to get out of sight of land, and were never so except by accident. When they found this to be the case, they made use of the heavenly bodies, if visible; and being accurate observers of the weather and atmospheric changes, they were enabled to find their way back again; for the various changes of weather about the Hawaiian Islands, and the appearance these changes brought about in the clouds over and in the vicinity of the land, afforded them a sure guide. From all accounts, it is supposed that but few persons have been lost, by being driven or sailing off (through mistake) from the land. Many disasters, however, have arisen, from the frailty and smallness of their canoes, although their good management of them was proverbial, particularly in the surf. Of late, and since they have possessed foreign vessels, they have lost much of their skill. These vessels they manage after their own way, and although many have been lost by wreck on the islands, I did not hear of any having been blown off. Some amusing anecdotes were told me of their negligence and inability to keep awake during the night.

They are quite fearless on the water; all swim, and have little fear of loss of life by drowning. They appear quite as much at home in the water as on land, and many of them more so.

Many remarkable instances of their patience under this kind of fatigue, were mentioned to me. One of them, which happened the year of our arrival, is well authenticated, and will also tend to show very great attachment and endurance in the female sex.

As the Hawaiian schooner Kiola, commanded by an American named Thompson, who was married to Kaiha, a female chief, was going to Hawaii, having on board many passengers, on getting into the straits between Maui and Hawaii the schooner foundered, and all on board, forty-five in number, were obliged to take to swimming for safety. Thompson could swim but little, but his wife was quite expert in the art; she promptly came to his aid, placed him on an oar, and swam for the shore. The accident occurred on Sunday about noon, when she with many others began to swim for the nearest land, which was Kahoolawe. She continued to support her husband until Monday morning, when he died from exhaustion, and she did not succeed in reaching the shore until that afternoon. She clung to him to the last, at the imminent risk of her own life, and was thirty hours in the water; she was met by some fishermen on landing, who took charge of, and brought her back to Maui.

I have also been told that there are many instances of such deep attachment among the Hawaiians, and that in former times widows and widowers have been known to commit suicide, or pine away with grief at the loss of their partners. Similar evidences of affection and attachment were also exhibited between parents and children.

Notwithstanding the instances of this kind, I must say from my own observation, that I should not be inclined to believe there is much natural affection among them; nor is there apparently any domestic happiness. Thus, it is not an unusual thing for a husband to tell you he has whipped his wife, because she has eaten up all his poe and fish. Formerly their laws of taboo were calculated to produce any thing but a kindly feeling towards the female sex; nor is it contended that they were of much if any consequence, if they were not of the highest class. These, as has already been mentioned, have great influence over the acts of government.

At the time of the advent of the missionaries, marriage was hardly known among them, and all the rules they observed, in relation to sexual intercourse, were a few regulating the extent of their licentiousness. From tradition, however, it is believed that the marriage tie was more regarded prior to the discovery of the island than since. Yet it is good evidence that this tie produced no greater happiness, or rather that they did not look to it as a source of happiness, when it is found that none of their songs, elegies, or other poetic effusions, have any allusion to it; nor are there any terms in the language to express connubial bliss.

The natives of this group generally show very little attachment to their children. All classes of females are unwilling to be burdened with the trouble of them, and, whenever it is possible, commit them to others to nurse. Although I observed this frequently, yet I was told that, since the institution of marriage, a change for the better has taken place; but all admit that this has not been to any great extent.

There are certainly instances in which many members of a family are united and live in harmony, and I can readily believe that the wish to have families is daily increasing, as the laws now protect and hold out inducements to those who have large ones. For these laws the natives are indebted to the missionaries, who have certainly effected this desired change. This change will do more to improve the character of this people than any other circumstance; and, by care and watchfulness over the wants and pleasures of the rising generation, the parents will lose some of that selfishness, which is now so predominant a characteristic, that a very short time spent among them suffices to show its general prevalence.

According to the missionaries and residents, a native is content if he can obtain a little poe and fish, and regards nothing beyond. This, however, according to my experience, is rating them too low; and probably proceeds from their unwillingness to be taught, or become passive to the will of the missionaries, or to exert themselves as much as those doing business for money, and seeking for profit out of their labour, desire. Thus, with different ends in view, they arrive at the same conclusion. In regard to the energies of the natives, as far as my own observations extended, they are always willing to work for a reasonable compensation; and it is not remarkable that they should prefer their own ease to toiling for what they consider, in the one case, unnecessary, and, in the other, for an inadequate reward.

Having little motive for industry, they expend their physical energies in various athletic sports. A favourite amusement of the chiefs was sliding down hill on a long narrow sled: this was called holua; it was not unlike our boys' play, when we have snow. The sled was made to slide on one runner, and the chiefs prostrated themselves on it. For this sport they had a trench dug from the top of a steep hill and down its sides, to a great distance over the adjoining plain. This being made quite smooth, and having dry grass laid on it, they were precipitated with great velocity down it, and, it is said, were frequently carried a half, and sometimes a whole mile. Diamond Hill and the plain of Waikiki was one of these localities for this pastime.

Playing in the surf was another of their amusements, and is still much practised. It is a beautiful sight to see them coming in on the top of a heavy roller, borne along with increasing rapidity until they suddenly disappear. What we should look upon as the most dangerous surf, is that they most delight in. The surf-board which they use is about six feet in length and eighteen inches wide, made of some light wood. After they have passed within the surf, they are seen buffeting the waves, to regain the outside, whence they again take their course, with almost the speed of an aerial flight. They play for hours in this way, never seeming to tire; and the time to see a Hawaiian happy, is while he is gambolling and frolicking in the surf. I have stood for hours watching their sport with great interest, and, I must say, with no little envy.

Next in interest to the foregoing amusements, were their dances. Some of these consisted, as among the other islanders, in gesture to a monotonous song, whose lascivious meaning was easily interpreted. Many persons were engaged in these dances, of which some are said to have been graceful; but if so, the people must have sadly changed since their first intercourse with the whites.

Their music consisted of drumming on various hollow vessels, calabashes, &c.; but the instrument most used by those who could afford one, was a piece of shark's skin, drawn tight over a hollow log.

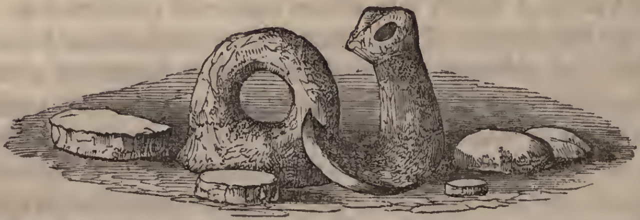
Since the introduction of Christianity, these amusements have been interdicted; for, although the missionaries were somewhat averse to destroying those of an innocent character, yet, such was the proneness of all to indulge in lascivious thoughts and actions, that it was deemed by them necessary to put a stop to the whole, in order to root out the licentiousness that pervaded the land. They therefore discourage any kind of nocturnal assemblies, as they are well satisfied that it would take but little to revive these immoral propensities with more force than ever. The watchfulness of the government, police, and missionaries, is constantly required to enforce the due observance of the laws.

The principal games now in vogue among them, are cards, of which, as they minister to their love of gambling, they are passionately fond, and often indulge in.

They had likewise the amusement of see-saw, which has not yet gone quite out of fashion, and is performed in a manner somewhat different from ours. A forked post is placed in the ground; on this a long pole is placed, which admits several on each side. After two or three ups and downs, they try which shall give the opposite party a tumble. This is, at times, adroitly done, and down they all fall, to the infinite amusement both of their adversaries and the bystanders, who indulge in loud laughter and merriment at the expense of those who are so unlucky as to get hurt. They are particularly ungallant, in this respect, to their female associates.

The practice of medicine was not known in ancient times; they had then no physicians, and the only medical treatment, if such it may be called, was, when they had eaten too heartily of food, to drink sea-water in large quantities, to produce a cathartic effect. They used the loomi-loomi, or kneading the flesh with the hands, in cases of fatigue, over-eating, and pains; and this is yet quite general.

The practice of medicine is said to have taken its rise in the reign of Atapai, the predecessor of Kalaiopua, who was king when Cook visited the islands: since that time there has been a distinct class in this employment. An epidemic, which prevailed extensively, is said to have been the origin of this class, and their number was greatly increased afterwards, in the reign of Kamehameha I.; and after this they were to be found in great numbers, furnished with a variety of nostrums.



STONE QUOITS, PESTLE, AND MAIKA.

# CHAPTER II.

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# CHAPTER II.

## KAUAI AND OAHU.

### 1840.

Saturday in Honolulu is a gala day, and all ages of both sexes devote themselves to amusement. Towards the afternoon, they may be seen wending their way towards the east end of the town, in every variety of costume, and borne along in every possible manner. All who have health enough must engage in this day's sport, and every horse is in requisition. The national taste, if I may so speak, is riding horses; and the more break-neck and furious the animal is, the better. Nicety of equipment is not thought of: any thing answers for a saddle and bridle, and as for stirrups, they are considered quite unnecessary. By four o'clock the crowd is well collected, and feats of horsemanship are practised, consisting generally in those involuntary tumblings that inexpert riders are wont to indulge in. The great gathering is on the eastern plain, the road to which is well covered with dust. The whole looks, when the crowd has possession of it, not unlike a rag fair, the predominant colour being yellow. They are generally well behaved, and the only sufferers are the poor horses, who are kept running, not races only, but for the amusement of the riders, whose great delight is to ride at full speed. At times there are races, in which case the crowd is increased by the addition of the foreigners, many of whom are in a state of intoxication. The uproar is proportionably great, and the natives are less conspicuous, their places being occupied by those whose morals and enjoyments are far from being as innocent. When his majesty and suite are present, much more order and decorum are observed, and the whole affords a pleasing and amusing sight. The returning throng is headed by the king and his party, after whom follow the crowd in a somewhat uproarious style; those on horses indiscriminately mixed, racing and hallooing; the fair riders being borne along, amidst clouds of dust so thick, that were it not for the rustling of flowing silks and tapas, one would be at a loss to know their sex. By the evening, all is again quiet, and the streets are nearly deserted.

Sunday is ushered in with a decorum and quietness that would satisfy the most scrupulous Puritan. I have often had occasion to speak of the strict observance of the Sabbath among the Polynesian islands; and this strictness is no less remarkable here. Such is the force of example, that even the least orderly of the foreigners are prevented from indulging in any excesses; which, considering the worthless population the town of Honolulu contains, is a proof of the excellence of the police regulations, and the watchfulness of the guardians of the law.

There are several congregations of natives, some of which consist of two thousand persons, all decently clad, exceedingly well behaved, and attentive. The Rev. Mr. Armstrong officiates in the oldest church, which is at the east end of the town. It is a long grass building, calculated to accommodate a very large number of persons: the pulpit, or desk, is in the middle of one of the sides. Service is held twice a day. The Rev. Mr. Smith has also a large church, situated at the west end of the town.

There is a very large church in progress of building, of coral, taken from the reef, which will be capable of containing a congregation of two thousand people. The funds for its erection are provided by the government; Dr. Judd, of the mission, has the general superintendence of its construction; and it is entirely the work of natives. It makes a good appearance, though I cannot say much for its architectural taste and beauty. It has a small steeple, sufficient to contain a clock and bell.

There are several schools under the superintendence of the missionaries, besides the school for the chiefs, before spoken of, and a charity school for half-breeds. I attended their examinations; and the natives performed better than I anticipated. At an examination in the old church, there were seven hundred children, and as many more parents. The attraction that drew together such numbers, was a feast, which I understood was given annually. The scholars had banners, with various mottoes, in Hawaiian, (which were translated to me,) as emblematical of purity, good conduct, steadfast in faith, &c. It was as pleasing a sight as the Sunday-school exhibitions at home; and it gave Captain Hudson and myself great pleasure, at the request of the missionaries, to say a few words of encouragement to them. After the services were over, the scholars formed a procession, and walked to Mr. Smith's church, the children of the governor and chiefs heading the procession. I was invited in due form to the feast, and as it was a place where I anticipated some display of the native character, I made a point of going. On my arrival at the church I found several tables set out, one for the accommodation of the chiefs, furnished as we see for a 4th of July lunch at home, with hams, turkeys, chickens, pies, &c. The common people's children took their poe and raw fish on the floor.

On arriving at the church, the governor became master of ceremonies, and with his numerous aids endeavoured to direct the throng; but all were too eager to get the most convenient seats to heed his commands, and the uproar was great. Some stopped short of their allotted place, and the church soon became a human hive. The governor did his utmost to maintain order and silence, but his voice was not heard; for in such a moment the anxiety he was under to have things conducted with good order, caused him for a time to lose sight of his usual urbanity and decorum of behaviour. He in fact showed that a little of the unbridled ferocity of former times was still within him, which moved him repeatedly to use his fist, and that too upon the fair sex, tumbling them over amid calabashes of poe, raw fish, &c., but with little injury to the individuals. Order was at last restored for a few minutes, during which grace was said by the Rev. Mr. Smith; which being ended, the clatter of tongues, clashing of teeth, and smacking of lips began. It was a joyous sight to see fifteen hundred human beings so happy and gratified by this molasses feast: poe and raw fish were the only additions. The latter are every-day food, so that the molasses constituted the special treat. So great is the fondness of the natives for it, that I was told many are induced to send their children to school, merely to entitle them to be present at this feast. It was not a little amusing to see the wistful faces without, contrasted with the joyous and happy ones within; in one place might be seen a sturdy native biting a piece from a raw fish, and near him another sucking the poe off his fingers, with much grace and sleight of hand. The molasses was either drank with water or sucked from the fingers. I thought that selfishness predominated among the crowd; the parents and children did not entirely harmonize as to the share that was due to each, and none seemed fully satisfied. Of the molasses there was "short commons;" but, all things considered, the feast went off well. I regretted it had not been held in the open fields, and that the natives were not allowed to have the whole management, without being so immediately under the eye of their teachers; for though sufficiently uproarious, they were evidently under some restraint. When the food had been consumed, silence was again restored and thanks returned, after which the whole crowd soon vanished. While this was going forward among the common people, those at the table of the old and young chiefs were not idle. The turkeys, pies, &c., appeared quite acceptable, although they were not so great a rarity to them as the molasses feast was to the others. As far as enjoyment went, I should have preferred to have been one of the poor scholars.

At the schools, it has been observed that the scholars are extremely fond of calculations in arithmetic, and possess extraordinary talent in that way. So great is their fondness for it, that in some schools the teachers have had recourse to depriving them of the study as a punishment. I was rather surprised with their readiness when numerical questions were put to them. I met some who were very ready accountants, though their desire of change and want of stability of character prevent them from engaging in any constant and steady employment where the above qualifications would be of practical use This defect of character, together with the prejudice of foreigners who are engaged in employments where they might be useful, prevents their service from being available.

In the neighbourhood of the old churches, near the mission, is the burying-ground, which is a mere common, and the graves are exposed to every kind of neglect. Foreigners, as well as natives, are buried here. The only grave that was pointed out to me, was that of Douglas, the botanist, which was without any inscription whatever. He was gored to death, on Hawaii, having fallen into one of the cattle-pits, where a wild bull had been entrapped. The skull of the bull was lying in the yard of an inhabitant of Honolulu. It is to be hoped that when the new church shall be finished, the space which adjoins it will claim from the authorities some attention, and be suitably enclosed.

I was much struck with the absence of sports among the boys and children. On inquiry, I learned that it had, after mature deliberation and experience, been considered advisable by the missionaries to deprive them of all their heathenish enjoyments, rather than allow them to occupy their minds with any thing that might recall old associations. The consequence is, that the Hawaiian boys are staid and demure, having the quiet looks of old men. I cannot doubt that they possess the natural tendency of youth towards frolicksome relaxations; but the fear of offending keeps a constant restraint over them. It might be well, perhaps, to introduce some innocent amusements; and indeed I believe this has been attempted, for I occasionally saw them flying kites.

The native games formerly practised were all more or less those of hazard, which doubtless gave them their principal zest.

The governor was kind enough, at my request, to have the game of *maika* played. This was formerly a favourite amusement of the chiefs, and consists in the art of rolling a stone of the above name. I had heard many extraordinary accounts of the distance to which this could be thrown or rolled, which was said to be sometimes upwards of a mile.

In some places they had trenches dug for this game upwards of a mile in length, about three feet wide and two deep, with the bottom level, smooth, and hard. The game is still practised, (although none of the trenches remain,) on any level ground that may be suitable. In the present instance, the governor selected the road in front of the house I occupied. There was a large concourse of spectators, and several men were chosen by the governor to throw. The maika is a piece of hard lava, in the shape of a small wheel or roller, three inches in diameter and an inch and a half thick, very smooth and highly polished. The greatest distance to which they were thrown by the most expert player, was four hundred and twenty yards. Many were extremely awkward, and it was necessary for the spectators to stand well on the side of the road for fear of accidents. All of them threw the maika with much force, which was evident from its rebounding when it met with any obstruction. The crowd, which amounted to three thousand persons, were greatly amused. This was their great gambling game, and such was its fascination, that property, wives, children, their arm and leg bones after death, and even themselves while living, would be staked on a single throw in the heathen time.

They have another game, which I was told is now more in vogue than it has been for some years. The revival of it is attributed by some to the visit of the French frigate Artemise; and certainly the natives do not appear to feel themselves so much restricted in their amusements as they did before that event. It is called buhenehene, and consists in hiding a stone under several bundles of tapa, generally five. He who conceals it sits on one side of the bundles, while those playing occupy a place opposite to him. The bundles are usually of different colours, and about the size of a pillow. Each player has a stick three feet long, ornamented with a feather or cloth, with which each in turn designates the bundle under which he thinks the stone is hidden, by a blow. If the guess be correct, it counts one in his favour; if wrong, he who has concealed it gains one. He who first counts ten wins the game. This game appears very simple, and one would be inclined to believe it all luck, until the game is witnessed; it is really amusing to a bystander, for the players always evince great eagerness, and during the operation of concealment, the face and eyes are narrowly watched by some, while the muscles of the bare arm are by others. So satisfied are they that the eye betrays the place of concealment, that the hider covers his eyes until he hears the stroke of the rod. An expert player is rarely deceived, however often the hand may be passed to and fro under the bundles. This game is now played for pigs, tapa, taro, &c.

The governor gave us an exhibition of throwing the lance, which he said had formerly been a favourite amusement of all the people, but was now practised only by the soldiers. The lance or spear is formed of a pole of the hibiscus, from seven to nine feet in length, on the larger end of which is a small roll of tapa. The exhibition was in the fort, where several soldiers had prepared themselves for the exercise. One of them placed himself at a distance of fifteen or twenty paces from three or four others, who endeavoured to hit him. He evaded the spears by throwing his body on one side, stooping, and dodging, in a very graceful manner. After this they were ordered to divide, and began throwing at each other, until, when one or two had been hit rather severely, the contest waxed warm, and blows were dealt without much ceremony, until the combatants came to close quarters, when the sport ended in a scuffle, which it required the authoritative voice of the governor to terminate.

This scene was highly amusing, and was the only occasion during my stay at the islands, in which I saw any temper shown, or any disposition to fight. The natives, indeed, are remarkably good-tempered; and many persons long resident here stated to me they very seldom quarrelled with each other. I have observed that when they see another in a passion they generally laugh, although they themselves may be the object of it.

In the latter part of October, when the Vincennes had nearly finished her repairs, it was discovered that her foremast was so rotten as to make it necessary to take it out and rebuild it on shore. By using one of the spare topmasts and purchasing a spar, we succeeded in rebuilding it. The cheeks and trestle-trees of the Peacock's mast had also to be replaced in consequence of decay. These were vexatious occurrences, occupying the little time we had to spare, and making it uncertain whether we should be able to perform the remainder of our work. Fortunately, we found at Honolulu good workmen, disposed to afford us all the assistance in their power, and being also well provided ourselves with carpenters, we were enabled to overcome these difficulties in time, though at considerable expense.

Among our other duties, a court-martial became necessary. The services we were engaged in had rendered it impossible to convene one prior to our arrival here; and if it had not been for the imperative necessity of making an example in the case of two marines on board the Peacock, I should have been inclined still to defer it from want of time. Besides the two marines, there was an unruly fellow by the name of Sweeny, an Englishman, who had been shipped in the tender at New Zealand, and was at times so riotous on board my ship, that I determined to try him also. A court composed of the oldest officers of the squadron sentenced them "to be flogged at such time and place as the commander of the squadron might think proper." Understanding from our consul that the sailors of the whaling fleet, as is most generally the case, were disposed to be disorderly, and my interference having been several times asked for, I thought it a good opportunity to show the crews of all these vessels that authority to punish offences existed. I therefore ordered the sentence of the court to be put into execution publicly, after the usual manner in such cases; a part of the punishment to be inflicted at each vessel, diminishing very much its extent in the cases of the two marines. At the time of the infliction of the punishment I received a letter (for which see Appendix IV.) from the most respectable portion of the crew, requesting Sweeny's discharge, and stating that he was a troublesome character. To insure his dismissal, they offered to pay all the debts he might owe to the government. As he had no claim on the squadron or flag, which, I was afterwards told, he had frequently cursed, and as he had been only six months in the squadron (having joined it with scarce a shirt to his back), I resolved to comply with the men's request, and sent him out of the squadron at once, with his bag and hammock, far better off than when he joined us. The ship became orderly again, having got rid of one of the greatest of the many rascals who are found roaming about Polynesia.

This act, together with the legal punishment of the marines for refusing to do duty, when their time of service had not expired, was another of the many complaints brought against me on my return.

I have obtained a copy of the enlistment of the marines, (which will be found in Appendix V.,) that it may be seen whether it was, or was not, my duty to hold control over these men. The signing of the roll of enlistment took place before I took command of the squadron. The original document was on file in the Navy Department, when the judge advocate of the court was endeavouring to prove there was no such document in existence.

The men's time of liberty having expired, they were again received on board, heartily sick of their frolic. They were remarkably orderly and well-behaved while on shore, and indeed the police is so efficient that it would have been impossible for them to be riotous, if so disposed, without finding themselves prisoners in the fort. I must here do Governor Kekuanaoa the justice to say, that he performs the part of a most excellent and energetic magistrate, and while he insists on others conforming to the laws, he is equally mindful of them himself. His fault, if he errs, lies in carrying them into effect too quickly and without sufficient examination. An instance of this fell under my observation, which will be spoken of at a future time.

The usual amusements for visiters in Honolulu, are billiards, bowling-alleys, riding, and visiting. There are but few vehicles, and in consequence of the want of roads, these can go no further than the eastern plain, which is but a short distance. A road for wheel-carriages might be constructed from one end of the island to the other without difficulty, and with little expense; and this is the only island of the group where it would be practicable from end to end.

The roads for horses are mere foot-paths, which at times pass over very difficult places, that by a short turn might be avoided, and with a great saving of labour. This, however, never seems to enter a native's head, and the neglect to improve the roads is akin to his irrational expedient of doubling his load by adding stones as a counterpoise, instead of dividing his bundle.

Desirous of having as thorough an examination made of all the islands of the group as possible, and the repairs of the tender being completed, I put Mr. Knox in charge of her, and sent her with several of the naturalists to Kauai, with instructions to land them, on their return, on the west side of Oahu, for its examination.

They left Honolulu on the 25th of October, and experiencing light winds, did not reach Kauai, although distant only a few hours' sail, until the morning of the 27th, when they were landed at Koloa, on the southeast side of that island. Here a heavy sea was rolling. After the vessel anchored, some canoes came off, and the people pointed out a good landing in a small rocky cove, that appeared as though it had once been a large cavern, whose top had fallen in.

On landing, they entered an extensive level plain, bounded by a ridge of mountains, and cultivated in sugar-cane and mulberries. Captain Stetson has an establishment here built of adobes, but these are not found to be adapted to the climate. The environs of Koloa afford some pasturage; the soil is good, though dry and very stony; the grass and foliage, however, looked luxuriant. About two miles from Koloa, Captain Stetson has his silk establishment, consisting of mulberry-grounds, cocoonery, &c. Our gentlemen were kindly received by Messrs. Stetson, Peck, Burnham, and others.

Agreeably to instructions, the naturalists divided themselves into three parties—one, consisting of Dr. Pickering and Mr. Brackenridge, was to cross over the centre of the island, from Waimea to Halelea, observing the botany of the high ground; another, comprising, Messrs. Peale and Rich, was to proceed along the coast on its eastern side; and the third party, Messrs Dana and Agate, intended to pursue an intermediate course, to view the scenery, geological formation, &c. The schooner was in the mean time to make some examinations of the roadsteads and small harbours of the island.

There were two old craters near the beach, which were visited. Only a few trees were observed. On the low wet grounds are taro-patches and fish-ponds. Among the few interesting plants were a species of Daphne, a Cleome, and some Sidas. The garden of Captain Stetson contained several ornamental plants, brought from St. Catharine's, Brazil. The garden had a pretty appearance, being enclosed with a hedge of ti plants (Dracæna), set closely together, about five feet in height, topped with thin, wide-spreading leaves, while the walks were bordered with Psilotum instead of box.

The mulberry trees do not produce well here, being subject to blight, and requiring great attention. This is thought to be owing to the dryness of the strong trade-winds that constantly blow, and which have parted with their moisture in passing over the high lands of Oahu, lying directly to windward.

The silk is reeled by native women. The specimens seen appeared of good quality, but were not reeled sufficiently fine, or with that attention to economy which is necessary to its profitable cultivation. It is thought it will prove a good article for the Mexican market, for use in saddlery.

From what I understood at Honolulu, this silk establishment, having been formed on too expensive a scale, has been a failure, and the capital, or original outlay, is considered as entirely sunk. The possibility of success is not doubted by those who have failed; but these silk establishments should begin by small outlays and be gradually extended by the investment of the profits.

About a mile back from the landing is the mission-house, and the sugar establishment of Messrs. Ladd & Co., with a well-made road leading to it. Beyond this, on the brow of the hill, is situated the house of Mr. Peck, enjoying as fine a prospect as is to be found in these islands. Around his establishment, in native-built houses, are the cocooneries.

The sugar-mills of Ladd & Co. are said to be doing a good business. They are turned by water. The sugar is of a fair quality, and has been sold in the United States at a profit. The natives are induced to raise the sugar-cane, which is sometimes ground, or manufactured, on shares, and is also bought. The labour of the natives, in raising the cane, costs twelve and a half cents per day. This, however, is paid in paper currency, issued by Ladd & Co., redeemable at their store; consequently the price of the labour is no more than six and a quarter cents; for the sale of goods is rarely made in these islands under a profit of one hundred per cent. The want of a native currency is beginning to be much felt, both by the government and people; a fact that will tend to show the advance they have made and are making in civilization.

The sugar, I understood, could be afforded in the United States at from four to four and a half cents the pound. This, however, I think is rather a low estimate, to include growth, manufacture, freight, and charges.

Dr. Pickering and Mr. Brackenridge set out on foot, the day after the tender arrived, along the southern coast, for Waimea, distant eighteen miles, in order to take the western route across the island. The whole distance between Koloa and Waimea was found to be a series of sunburnt hills and barren plains, sloping gradually from the base of the mountains to the ocean, and now and then intersected with ravines, or, as they are called in the Hawaiian Islands, "gulches." Only a few coarse grasses are met with, quite unfit for pasture.

At Waimea, the fort built by the Russians, under their absurd trade-master, Dr. Schoof, is still in existence. His ambition would have made him the proprietor of the whole island, although his only business was to take possession of the remains of the wreck of a ship belonging to the Russian Company, that had been lost in the bay. Several Russian vessels were afterwards sent there, which Schoof took charge of, by displacing their masters. It is said he made presents to Kamehameha I., and received in return a grant of land from him; some accounts say, the whole island! It is quite certain, however, that Kamehameha's fears were excited by the reports that were circulated from time to time, that the Russians, through Dr. Schoof's operations, intended to get such a foothold as to subvert his authority, and keep possession of the island. With his usual promptness, he, in consequence, ordered the governor, Kaumualii, at once to send them all away. This was effected without any disturbance, and all the Russians embarked in a brig, in which they proceeded to Halelea, to join other Russian vessels that were lying there, and all departed together. As any intention of taking forcible possession, or colonizing the island, was shortly afterwards denied, in the most positive manner, by the Russians, it is probable that the whole was the work of a vain and ambitious man, who had suddenly found himself elevated above his own sphere. That he either wanted the inclination or the courage to carry out his conceptions, if he had any, is manifest, from his immediate acquiescence to the order of the chief to quit the island. He is now known at the islands under the appellation of the Russian Doctor, although by birth a German. The Russian Stone Fort, as it is now called, is garrisoned by a guard of natives.

Waimea offers the best anchorage at this island, except in the months of January and February, when the trades are interrupted, and the wind blows strong from the southwest, and directly on shore.

About a mile west of Waimea is the spot where the first English boat landed from Cook's expedition. The village of Waimea takes its name from the river, which rises in the mountains, and after a course of about fifteen miles, enters the sea there. It is navigable three-fourths of a mile from its mouth, in boats. The water is used for irrigating the valley, and might also be appropriated to manufacturing purposes, as there are many excellent mill-seats, and a steady supply of water for such purposes.

The district in which Waimea is situated, is called Hanapepe, and extends to Napali on the west, and Hanapepe on the east. The former is about twenty miles distant from Waimea, and the latter six. At Napali a part of the central range of mountains meets the sea, and shuts in the plain near the sea-shore by a perpendicular precipice, between fifteen hundred and two thousand feet in height.

The sandy plain that skirts the southwest side of the island is from one-fourth of a mile to a mile wide, and lies one hundred and fifty feet above the level of the sea; the ground rises thence gradually to the summit of the mountains. This land is fit for little except the pasturage of goats, and presents a sunburnt appearance, being destitute of trees to the distance of eight or ten miles from the sea. The plain above spoken of, therefore, has little to recommend it. There is a strip of land just before the mountain ascent begins, which has an excellent soil, but for the want of water will probably long remain unproductive. On the low grounds the cocoa-nut tree thrives and bears abundant fruit, which is not the case with those on the other islands.

The sea-coast bounding this district, is considered the best for fishing, and the manufacture of salt might be extensively carried on.

The drinking water, except that obtained from the river, is brackish.

The valley of Hanapepe borders on the eastern part of this district:

it has apparently been formed by volcanic action. At its entrance it is about half a mile wide, and decreases in width as it approaches the mountains. At its head is a beautiful waterfall, of which Mr. Agate succeeded in getting a correct drawing.

The basaltic rocks and strata, as it will be seen, have been much reversed and upturned, and present their columnar structure very distinctly to view, inclining in opposite directions. Although the volume of water in this cascade is not great, yet its form and situation add very much to its beauty: it falls into a quiet basin beneath, and the spray being driven by the wind upon each bank, affords nourishment to a variety of ferns which grow there. At its foot it forms a small river, which passes down through the centre of the valley. This whole scene is very striking, the banks forming a kind of amphitheatre rich in foliage, and with rills of water coursing down them in every direction.

The water of this stream is used by the natives to irrigate their taro-patches, and the soil of the valley is exceedingly fertile, producing sweet-potatoes, pumpkins, cabbages, beans, &c. The whole district is almost entirely supplied with food from the Hanapepe and Waimea valleys, which occasions the population for the most part to centre in these two places: throughout the remainder of the island, the huts and inhabitants are but sparsely scattered.

The district of Hanapepe forms a mission station, and is under the care of the Rev. Samuel Whitney. He states the population in 1838 to have been 3272. Mr. Whitney informed me, that for some years past he has kept a register of births and deaths, which shows that the latter is to the former as three to one. Other late authorities make the decrease in this district as eight to one for several years; but a resident of such standing as Mr. Whitney must be reckoned the best authority.

Mr. Whitney imputes this rapid decrease to former vicious habits, and both native and foreign authorities attribute the introduction of the venereal to the visit of Cook. This infection, brought to these islands by the first voyagers, may now be said to pervade the whole population, and has reduced the natives to a morbid sickly state; many of the women are incapable of child-bearing, and of the children who are born only a few live to come to maturity.

Mr. Whitney assigns as another cause of the decrease in the population, the recklessness of human life, brought about by the despotic government under which they have been living, which has destroyed all motives to enterprise and industry, rendered precarious the blessings of life, and produced a corresponding recklessness as to the future. Much of the sickness is owing to over-eating and irregularity in meals:

for the inhabitants fast sometimes for days together, and then gormandize to the greatest excess.

There has been no case of infanticide, to Mr. Whitney's knowledge, during the last ten years, and he does not believe that the law interdicting sexual intercourse is promotive of this crime; for from all his inquiries, he has not been able to learn a single fact that will tend to warrant such a conclusion: on the contrary, he thinks that the law in question has rather acted to prevent its commission.

Intoxication certainly forms no part of the cause of diseases, for Mr. Whitney bears testimony, that he has not known six cases of intoxication within the last thirteen years. A spirit, however, is distilled from the ti, potatoes, watermelon, &c.

The marriage law has had a good effect in this district, and will probably be the means of arresting the desolation that is now sweeping over the land. From thirty to forty marriages have taken place yearly. I have been thus particular in the population of this district, as it is generally reported to be that wherein the causes of decrease are most active. This cannot be owing to the climate, which is very similar to that of the leeward portions of the other islands, and the atmosphere is considered dry and healthy. Can it be owing to the fact, that the original virus of the disease was here first spread, and that it has continued to be more virulent here than elsewhere?

As respects agriculture, there being no market for the sale of produce, the supply seldom exceeds the wants of the district. Some attempts have, however, been made to produce cotton and the sugar-cane; but, for want of encouragement, the produce has not yet been sufficient to clear the expenses.

The improvement in the morals and instruction of the natives is very considerable. There are sixteen schools, all taught by native teachers, at the expense of the people. Two-thirds of the adult population read, and many of them can also write. The instruction is now confined to the youth and children, of whom about three hundred attend the schools regularly, and six hundred more occasionally. Much improvement has lately taken place in their habitations, and in the manufacturing of their wearing apparel, consisting of tapa, &c.

There is one church, and one hundred and fifty-nine communicants: the number that attend worship in the morning is about a thousand, and in the afternoon about half that number.

The island of Niihau was not visited by any one belonging to the squadron; but it seems proper that in giving an account of the Hawaiian Islands, it should be spoken of. It is situated sixteen miles southwest of Kauai, and is eighteen miles long by eight broad. There is an anchorage on its western side, but no harbour. Its eastern side is rocky and unfit for cultivation; the inhabitants therefore reside on its western side, on the sea-shore, and are for the most part miserably poor. They cultivate, principally, yams and sweet-potatoes, the former of which succeed much better here than at any of the other islands. Water is very scarce, and they suffer occasionally from droughts, from which cause they are not able to raise the taro. This island is celebrated for the beautiful mats manufactured by its women. It is also said to be a favourable place for the manufacture of salt.

The number of inhabitants is one thousand; and what is remarkable, although but a few miles removed from Waimea, on the island of Kauai, they show an increase, in the proportion of births over deaths, of eight to six. The climate cannot be very different, and both would be equally subject to drought, if it were not for the rivers and the irrigation dependent on them. On this island there are two hundred children, about one-third of whom read: these are divided into twelve schools, under native teachers.

The district of Koloa on Kauai is twelve miles long by five broad. The face of the country is much broken into hills and extinguished craters. The land is good along its whole extent and half its breadth, and they have a sufficient quantity of rain to enable them to dispense with irrigation, of which but a small extent only would be susceptible.

The climate is generally mild and equable, the range of the thermometer being usually from 60° to 80° F.; but during the summer months it is occasionally found as high as 90°, and in winter as low as 50°. Sugar-cane grows in luxuriance, as well as cotton; the mulberry, both Chinese and multicaulis, Indian corn, sweet-potatoes, yams, and taro also flourish.

This has been the seat of the operations of some foreigners (Americans), and although, as has been before remarked, the natives derive but little pecuniary profit from their labour, yet the influence of a steady occupation has produced a striking improvement: they are clothed in foreign goods, and are generally found employed, and not lounging about as formerly. The comforts of their habitations have, however, as yet undergone but little change.

The population in 1840, was one thousand three hundred and forty-eight. There is a church, with one hundred and twenty-six members, but no schools. The teachers set apart for this service were employed by the chiefs, who frequently make use of them to keep their accounts, gather in their taxes, &c. The population is here again increasing, partly by immigration, whence it was difficult to ascertain its ratio. This district, it will be observed, lies immediately on the east of Hanapepe. Infanticide is not known, and drunkenness rarely if ever happens. There are no epidemics; asthma and ophthalmia are the diseases most prevalent: the latter is ascribed to the strong winds which blow constantly, and irritate the eye with the minute particles borne on them.

There is no western route from Waimea to Halelea; it is therefore necessary, in getting to Napali, to take a canoe and coast along the shore. As this would not have answered the purpose of our gentlemen's visit, they determined to take the path directly across the island, and were provided with two guides by the kindness of Mr. Whitney. They left his hospitable mansion the next morning, having noted the standing of the sympiesometer. Shortly after starting they were joined by a native, laden with provisions and cooking utensils, which the kindness of Mr. Whitney had provided, and sent for their use. They at once commenced a very gradual ascent over a barren surface to the half-way house, about twelve miles. At first they found nothing but withered grass, then a few ferns, where goats only could find pasturage, and, a mile or two before reaching the half-way house, some stunted acacias and sandalwood. The route was along the river the whole distance, though in a deep gorge beneath them. All the wood used at Waimea must be brought from this distance. Their guides carried them about a mile beyond the half-way house, to a deserted hut, intending to stop there for the night; but our gentlemen found it so infested with fleas and vermin, that, although it rained, they returned, and passed the night comparatively free from these annoyances. The height of the half-way hut, as given by the sympiesometer, was three thousand four hundred feet. The sea was in sight the whole distance, and the coast was seen as far to the west as Napali. The country thus seen appeared similar to what they had passed over: it was furrowed in places by ravines, but yields no water except when rain falls abundantly upon the mountains.

At half-past 5 P. M., the thermometer stood at 69°, and the next morning at half-past six at 72°.

After sending the native back to Waimea who brought the comforts which Mr. Whitney's kindness had provided them with, they began their journey across the island, and entered into a very luxuriant and interesting botanical region, passing through several glades, which appeared well adapted for the cultivation of wheat and Irish potatoes (which have never been tried here). Large tracts were free from wood and level, on which was growing a sort of wild cabbage in great abundance. Wild hogs were evidently numerous, for many were started in the bush, and their rooting was to be seen along the whole route. Wild dogs are said also to exist in bands. During the day, a storm of wind and rain came on. After passing this fertile region, they reached the table-land, which is a marshy district, filled with quagmires, exceedingly difficult to travel through, and in which they frequently sunk up to their knees in mud and water. This table-land was supposed to be upwards of twenty miles square. Here the natives were inclined to turn back; but, as they afterwards said, they considered themselves bound to proceed "on so unusual an occasion." Their fears arose from the report that natives had been lost in crossing by this path. At about 8 P. M., they reached the Pali or precipice, which is like that of Oahu, having a very abrupt, though not dangerous, descent. Many interesting plants were gathered on this route, such as Acæna, Daphne, Pelargonium, Plantago, Drosera, with several interesting grasses.

At the Pali they neglected to make observations with the sympiesometer, but their impression was that the height was six or seven hundred feet more than the situation of the half-way house, which would give an altitude of about four thousand feet. Mr. Alexander, the missionary at Halelea, informed them that he had made it that height by triangulation.

The descent of the Pali was found to be very steep and fatiguing; but by slipping, tumbling, scrambling, and swinging from tree to tree, they reached the margin of the river Wainiha, at its foot. The stream was in this place about six hundred feet above tide. They were obliged to ford it; and in consequence of the heavy rain of the day before, it was so much swollen as to be almost impassable, the water reaching to their breasts. This, together with floundering through the taro-patches, as the darkness set in, made them consent to take up their lodgings in a native hut. In the morning they passed down the valley of Wainiha, which here forms a glen. The sides of the mountains, that rise abruptly about fifteen hundred feet on each side, are covered with vegetation in every variety of tint; whilst the tutui tree (Candle-nut), the bread-fruit, orange, banana, plantations of Broussonetia papyrifera, and taro-beds, together with pandanus trees, whose blossoms scent the air for miles, filled the valley with luxuriance. This prolific vegetation, with numerous cascades falling over the perpendicular sides of the rock, combine to form one of the most picturesque scenes on this island.

About noon they reached Halelea, most of the distance to which was travelled along the sea-shore. On their way they crossed the Lumahae, a river similar to the Wainiha, and running parallel with it. The foot of the Pali is about five miles from the coast.

The extensive sugar plantations, with a few neat cottages, with verandas and thatched roofs, and the rows of small cabins for the labourers, give the place the aspect of the tropical plantations of European nations.

Messrs. Peale and Rich, being furnished with horses and a guide by the kindness of Mr. Burnham, took the eastern route to Halelea through a fine level country, cultivated in sugar-cane and affording good pasturage. The natives here use the plough, and it was said at Koloa that there was an instance of two of them having netted one hundred and forty dollars by their crop of sugar the last year.

The principal trees were acacias (koa), pandanus, the tutui (Aleurites). The latter is the largest and most conspicuous, from its white leaves resembling blossoms at a distance. The plain over which they passed was two hundred and fifty feet above the level of the sea. There are in it many gullies, formed by the small streams that run down from the mountains; all of these are, however, blocked up by sand-bars, through which the water filtrates, forming quicksands, which it is somewhat dangerous to pass over. The immediate shore along this route is rocky and susceptible of little cultivation, except near the mouths of the rivers, where taro-patches are to be found.

At noon they reached Lihui, a settlement lately undertaken by the Rev. Mr. Lafon, for the purpose of inducing the natives to remove from the sea-coast, thus abandoning their poor lands to cultivate the rich plains above. Mr. Lafon has the charge of the mission district lying between those of Koloa and Waioli. This district was a short time ago formed out of the other two.

The principal village is Nawiliwili, ten miles east of Koloa. This district contains about forty square miles, being twenty miles long by two broad. The soil is rich: it produces sugar-cane, taro, sweet-potatoes, beans, &c. The only market is that of Koloa. The cane suffers somewhat from the high winds on the plains.

Mr. and Mrs. Lafon are very industrious with their large school, to which some of the children come a distance of five miles. Our gentlemen were much pleased with what they saw, and were satisfied that good would be effected by their manner of treating the natives.

The temperature of Lihui has much the same range as that of Koloa, and the climate is pleasant: the trade-winds sweep over it uninterruptedly, and sufficient rain falls to keep the vegetation green throughout the year.

As yet there is little appearance of increase in industry, or improvement in the dwellings of the natives. There are no more than about seventy pupils in this district, who are taught by natives. There are two houses of worship, and about forty communicants. No decrease is apparent in the population within a few years.

On the fertile places, although the pasturage was good, yet no cattle were to be seen.

From Lihui, they pursued their way to Hanawale, which is a small fishing village at the mouth of a little stream. The country on this route was uninteresting, until they reached Wailua, the residence of Deborah, a chief woman of the islands, readily known as such from her enormous size, and the cast of her countenance. She has a person living with her called Olivia Chapin, who speaks English, and has learned how to extort money. Deborah has about forty men in her district; but they were absent, being employed in the mountains cutting timber to pay the tax to the king.

Near Deborah's residence are extensive fish-ponds belonging to her, which have been made with great labour: they are of different degrees of saltness. The fish are taken from the sea when young and put into the saltest pond; as they grow larger, they are removed into one less salt, and are finally fattened in fresh water. While our gentlemen were there, Deborah received young fish in payment of the poll-tax, which were immediately transferred to her ponds.

Wailua, (two waters,) was formerly a place of some importance. It is situated on a small stream of the same name, in a barren, sandy spot.

Deborah furnished them with a double canoe, to carry them up the river to visit the falls. Taking the western branch, they ascended it for two and a half miles.

There are many good taro-patches and sugar plantations on its banks. They landed in what appeared to have been an old crater, in form of a basin, with high perpendicular banks. The low grounds along the river are extremely fertile, producing bread-fruit, sugar-cane, oranges, &c. The latter, however, are suffering from the blight, and some of the trees were covered with a black smut, produced by a species of aphis.

In ascending, an insulated black rock is passed, known as the "Muu," which has been detached from a high rocky bluff, that is remarkable for the dikes visible in it.

They afterwards ascended the bank, two hundred feet high, and crossed about half a mile to the falls, over a plain covered with grass and wild sugar-cane. The stream was very small, running sluggishly, and passed over a precipice of barren rocks, one hundred and sixty feet in height. Although there is neither tree nor shrub along the stream above the fall, the valley beneath is filled with them; the most conspicuous was the pandanus. The whole scene is picturesque. Below, the falls present a very curious appearance, the wind continually breaking and dispersing the water in heavy showers over a great variety of ferns, which are growing in the crevices of the rocks. The volume of water does not exceed ten hogsheads a minute. In the basin beneath were found many fine specimens of Neritina granulata, and two other species were found further down the stream, about four feet below the surface: these were procured by diving. Mr. Rich obtained specimens of the plants. Mr. Peale found but few birds; ducks were abundant on the river's banks, some of which were killed. Rushes were growing along the banks from eight to ten feet in length, four or five feet under the water; besides these, the banks were covered with hibiscus and ricinus (castor-oil trees), growing wild.

Returning to Deborah's, where they remained for the night, they met Messrs. Dana and Agate. Deborah entertained them in "white style," at a table set with knives, forks, &c., and gave them tea and sugar. Their bed was native, and composed of a platform of about twelve feet square, covered with mats. This proved comfortable, with tapa as a covering in lieu of linen.

The next morning, they started for Waioli and Halelea. The country on the way is of the same character as that already seen. They passed the small villages of Kupau, Kealia, Anehola, Mowaa, and Kauharaki, situated at the mouths of the mountain streams, which were closed with similar sand-bars to those already described. These bars afforded places to cross at, though requiring great precaution when on horseback. The streams above the bars were in most cases deep, wide, and navigable a few miles for canoes. Besides the sugar-cane, taro, &c., some good fields of rice were seen. The country may be called open; it is covered with grass forming excellent pasture-grounds, and abounds in plover and turnstones, scattered in small flocks.

On their way they passed through a beautiful grove of tutui-nut trees, in which the Rev. Mr. Alexander is in the habit of preaching to the natives. These trees are large, and form a delightful shade. There are few places in the open air so well calculated to hold divine service in, and it is well fitted to create feelings of religion. The view, by Mr. Agate, will give a good idea of it.

These nut-trees grow with great luxuriance on this island; and an excellent oil is expressed from the nut, which already forms an export from these islands. We heard here, that at New York, it was pronounced superior to linseed-oil for painting. There is a manufactory of it at Honolulu; but I understood that it dried with difficulty. It is said to bring one dollar per gallon on the coast of South America. The native candle is made of these nuts strung upon a straw; they are likewise roasted and eaten.

Before reaching Waioli, they passed through a forest of pandanus trees. Waioli is a mission station, the residence of the Rev. Mr. Alexander, by whom they were very kindly received. This district is called Halelea. Waioli is on the north side of Kauai. The plain on which it is situated is only six or eight feet above the level of the sea, and lies between the Halelea and Waioli rivers. Though of small extent, it is one of the most fertile spots of which these islands can boast.

The Halelea district comprises a large proportion of arable land: it extends to the distance of twenty miles to the eastward of Waioli; the portion, however, which lies to the westward is of a totally different description, being broken up into precipices and ravines, affording no inducements to the agriculturist, and having very few spots susceptible of cultivation; its extent is about fifteen miles. The eastern portion is watered by at least twenty streams; many of these are large enough to be termed rivers, and might be employed to turn machinery. It is elevated from three to eight hundred feet above the sea, and comprises about fifty thousand acres of land, capable of producing sugar-cane, cotton, indigo, coffee, corn, beans, the mulberry, and vegetables in every variety. It now produces taro, sweet-potatoes, yams, bread-fruit, bananas, plantains, squashes, melons, beans, Indian corn, and cocoa-nuts. Sugar-cane grows spontaneously. Mulberry trees flourish, of which there are four kinds, the Chinese, the multicaulis, the white, and the black: the latter variety has a small leaf. The vegetation is extremely luxuriant from the frequent rains. The sugar-cane, and mulberry, both Chinese and multicaulis, are the staple articles of culture. The mulberry has here a most rapid growth, and being sheltered from the strong winds, it succeeds well. Some of the leaves of the multicaulis are of the enormous size of fifteen inches in length by twelve in breadth. Mr. Titcomb has a large plantation of both kinds, and an extensive cocoonery in operation. He has succeeded in making silk of excellent quality, both for the loom and sewing. He gives his personal attention to this business, and began in a small way. I understood that he had succeeded in it. His greatest difficulty is the unsteady labour of the natives, and he also experiences, at times, difficulty in preserving the worms. The silk is procured from the American worm and a cross-breed between the Chinese and American. The yield of the latter is fine and of a pale yellow or orange silk; of the former the colour is white, and much coarser.

Indigo is produced in the valley of Halelea, and grows well. Mr. Alexander had some growing, but his plants, from being allowed to get too high, have become woody and scraggy, and produce very indifferent foliage. The manufacture of indigo is not understood in the Sandwich Islands, although the plant flourishes so well there that it has run wild, and with proper knowledge and attention, in the opinion of our botanists, might produce a profitable crop.

The tutui-nut tree (Aleurites triloba) is very abundant, several thousand acres being covered with forests of it. The island abounds in very many excellent woods for the cabinet-maker, joiner, and shipbuilder; of which I received a large number of specimens, presented to the Expedition by Mr. Ladd, of Oahu, who was kind enough to order the collection to be made by his partner at Koloa.

The rivers, as well as sea, abound in excellent fish, and afford a plentiful harvest to the fisherman.

Goats, hogs, and poultry of all kinds are raised, but there is no market nearer than Koloa or Oahu for their sale; these, whenever possible, are resorted to.

The climate, as to temperature, is about three degrees cooler than the other side of the island: the range of the thermometer, from January to May, was from 56° to 82°; sometimes it has been known to fall as low as 52°, and rise as high as 87°. The inhabitants never suffer from heat, and the rains are so frequent as to clothe the country in perpetual green. It rains nearly nine months in the year, and, from the rainbows formed by these passing showers, it has obtained its name, which signifies the land or place of rainbows, Halelea. A few days of dry weather are quite unusual. During three months, included in the above nine, rain fell on fifty-two days; fourteen were cloudy. During the remaining twenty-four the weather was clear, but it rained occasionally at night.

Our gentlemen made several excursions back of Halelea with Mr. Alexander, and endeavoured to ascend the peaks; but the rain prevented their doing so. They obtained many interesting specimens of plants and birds, among the former of which were a number of ferns.

On the 1st of November they attended Mr. Alexander's church. The congregation was composed of about four hundred. They were all much struck with the dress of the native women, its unusual neatness and becoming appearance. It seemed remarkable that so many of them should be clothed in foreign manufacture, and that apparently of an expensive kind; but on a closer examination, the dresses proved to be tapas, printed in imitation of merino shawls, ribands, &c.

The tender making her appearance in the harbour, our gentlemen received notice to repair on board in the evening. Mr. Knox had circumnavigated the island, and made surveys of its small harbours: there are none of these fit for a vessel to ride in; that of Waimea, as I said before, is the safest, but Halelea is frequently used; and although much exposed to the winds, it has more pretension to the name of a harbour, than the rest. It is remarkable from having been the place where the pride of Salem, "Cleopatra's Barge," was wrecked. The west coast of the island was found destitute of harbours or anchorage, having a perpendicular cliff rising from the sea for the greatest part of the distance.

The Halelea river is navigable for canoes about three miles; it is from one to two hundred feet wide, has but little current, and is slightly affected by the tide near its mouth.

The highest point on the island, which is estimated at six thousand feet is called Wailioli. Mr. Alexander stated, that it had been ascended on its eastern side from Waioli. I regretted afterwards I had not despatched officers to ascend it, but our naval duties were so pressing upon all, that I found it impossible to spare any one at the time I ordered the party to Kauai. I also partly indulged the hope, that those who were to cross over the centre of the island, would have been led near it, and thus tempted to make the ascent. From the information I have received, it is supposed to have a crater on its summit, like many of the other high mountains in the group. It is said, that when the weather is clear, the natives ascend it for the purpose of getting a view of Oahu, one hundred miles distant.

The population of this district has been for several years decreasing, and Mr. Alexander estimates the decrease to be one-hundredth annually for the last nine years. In 1837, the population was 3024; the proportion of the sexes was—males, 1609; females, 1415. In 1840, population, 2935—males, 1563; females, 1372.

The census taken in 1840, is no doubt much more accurate than any heretofore made, and as far as the ability of the king's officers go, it may be depended upon. Mr. Alexander is inclined to impute the decrease to former licentiousness, as well as to the barrenness of the women. Those who have children, lose them at a premature age, and abortion is produced sometimes, from fear of the pains of parturition. Mr. Alexander has known of only five cases of the latter description within six years, the time of his residence here; so that this latter cause can have but little influence. This is true also as regards intemperance, for he bears testimony to his having never seen a native intoxicated on Kauai. The touching of a French whale-ship at Waimea and landing a quantity of wine and brandy, has, he thinks, revived their propensities of fifteen or twenty years past; and when the liquors were exhausted, they were found resorting to a method of distillation of their own, or subjecting various fruits to the process of fermentation until they would produce intoxicating effects. All this has been promptly arrested by the activity of the judges and their agents.

In this district comparatively few die of acute diseases. Dropsies are among the most frequent; palsies and diseases of the lungs also occur; syphilis is rare, but gonorrhœa prevails extensively.

The climate is considered very salubrious. Immoderate eating and fasting, living in damp huts, long exposure in the water, and sleeping on the ground, are all assigned as causes for the many sick and weak among the natives.

The schools in this district have, as elsewhere, undergone an entire revolution. Formerly, all the adult population were included among the pupils; now they consist only of children, and within two years past these have greatly fallen off in numbers—as much indeed as one half. Mr. and Mrs. Johnson, with some native teachers, have charge of the school. Mr. Alexander thinks, that the native children are not inferior to those of other lands in point of intellect. These schools, unlike those of Tahiti, are kept open five days in the week, and six hours each day. Besides the school at Wailua, there are several others at different places. The teachers are relieved from all government taxation, except the poll-tax, and receive whatever the congregation contribute at the monthly meetings, which Mr. Alexander computes at about forty dollars for the last seven months; this sum divided among eight teachers, does not give each of them one dollar a month!

The church was established at this station in 1834, by five persons from the church at Waimea, and five others; these received an examination. The church now consists of eighty members. Three persons have been excommunicated, and four have died. The congregation on the Sabbath amounts to from six to eight hundred.

Large quantities of beans were raised on this island, in hopes of supplying the whalers with them; but, after they had been raised and carried to Oahu, they discovered that those ships did not use them. This is one instance, among many, of the want of practical knowledge on these islands.

On the arrival of the tender, Mr. Knox received a present of fine fresh beef from the farm of Mr. Charlton, H. B. M. consul. The cattle are thought to be finer here than on any of the other islands, and the price for them is much more reasonable. Mr. Charlton has upwards of one hundred head.

At 10 P. M. the tender, having received the party on board, took advantage of the land-breeze and stood for Oahu.

In quitting Kauai, I must return my own thanks, as well as those of the gentlemen of the squadron who were the recipients of the attentions and hospitality of our countrymen and other residents on Kauai; and I also tender my sincere acknowledgments for the information derived and the assistance rendered by them.

On the 3d, the tender reached Rawailoa, in Waialua district, and the naturalists were landed on the western side of Oahu.

The coast here forms a small bay, and has a dreary aspect on first landing. The soil is sandy and poor; the huts are in ruins, and the inhabitants present a miserable, squalid appearance. A short distance from the coast an agreeable change is met with, in extensive taro-patches, fish-ponds, and fine fields of sugar-cane. The habitations in this part, are neat and comfortable, and the natives cheerful and clean.

It was near this place that Mr. Gooch, who accompanied Vancouver, was killed by the natives. Our gentlemen were kindly welcomed by Messrs. Emerson and Locke, the former having charge of the station, and the latter of a school on the Peztalozzian system. There are only fourteen boys in the school: they look well, and are neatly clothed; but it is not thought to be doing well, for the natives do not like the plan of having their children taken entirely from their own control; yet this is essential to success. The boys all live within Mr. Locke's enclosure, and are seldom out of his sight. Agriculture is their principal employment, and some of them were seen to yoke oxen and manage the plough with adroitness. They are also taught reading, writing, and arithmetic, for which they evince great fondness. Mr. Locke is enthusiastic in his undertaking, and well deserves success, though I cannot but view the experiment as very doubtful.*

Here the party again divided, to explore the island of Oahu, on their way to Honolulu. The district of Waialua stretches from the most westerly cape, called Kaena, to Waimea, in the district of Koolaulo, on the northeast, and to Waianae on the southwest, a distance along the coast of above twenty miles. Within this district are a few bays for vessels not exceeding one hundred and fifty tons burden; the best of these is Rawailoa. Those to the northeast are Waimea, Haula, Kakaua, Moluilui, and Makua. Like all the rest of the places, they are dependent on Honolulu, which is thirty miles distant, for a market. A good road might very easily be constructed, and very nearly level, on the plain that lies between the two high mountain ranges which traverse the island from east to west. One of these ranges is called Konahaunui, the other Kaala; the former occupies the eastern end of the island, the latter the western. Both are basaltic. It is remarked of these two ranges, that the soil and growth of the plants are dissimilar; for instance, the kauwila, the wiliwili, the haw, and the uhiuhi are found on the Kaala, and are either not found, or only in a dwarfish state, on the Konahaunui; whilst the acacia (koa), and the lehua, do not exist on the former, though growing luxuriantly on the latter.

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* Since leaving the island, I have learned that Mr. Locke had, in farther experiments, satisfied all that his success was quite equal to his anticipations; and I regretted, in late advices, to learn of his death, after a few days' illness, being thus cut off in the full tide of his usefulness.

Waialua lies at the foot of the Konahaunui range, on its western slope, while the northern slope of Kaala nearly reaches it. Here begins the plain before mentioned, which extends to Ewa, a distance of about twenty miles. Part of the Waialua district is cultivated by irrigation, and produces abundantly. Five considerable streams water it from the Konahaunui range, passing down the fertile valleys. The largest of these is quite sufficient to supply motive power the whole year round. On the banks of the Ewa are many thousand acres of land wholly unoccupied, which are capable of growing cotton, sugar-cane, indigo, the mulberry, &c., to any extent. From sources that are to be depended upon, I was informed that there are upwards of thirty square miles in the Waialua district that can be cultivated without irrigation.

The people are as indolent as usual, having but few wants, and those easily supplied; there is now, however, some hope of their improvement, because the conveniences of civilized life are gradually being introduced, the desire of obtaining which gives them an incentive to exertion. They cannot yet be induced to change their ancient dwellings for better habitations, and still adhere with pertinacity to their thatched grass huts, without floors or windows, and destitute of ventilation: these dwellings may with truth be termed, miserable hovels.

The mountain range of Konahaunui runs close to the north shore of the island, leaving only a narrow strip of land, varying from a half to two miles in width, and twenty miles in length: this is called the Koolaulo district. It is only a few feet above the level of the sea, and has a gradual ascent to the foot of the precipices. The mountain spurs from the main chain are numerous: some of these are of great length, and enclose valleys having a very fertile soil. The land on the immediate coast is also good, and receives an abundance of rain for agricultural purposes. There are here also several small streams, sufficiently well supplied with water to drive the machinery for sugar-mills.

The scenery of this district is surpassed by that of few places in beauty, boldness, and variety; stupendous precipices rising some two or three thousand feet, with small streams rushing over and down their sides, resembling so many strings of silver girdling them, and here and there lost among the light and airy foliage. To whichever side the traveller turns himself, he is sure to find something to interest and attract his attention. The Kaluamei waterfall is a very remarkable spot, lying deep in the mountain, whither from appearance it has worn its way to the depth of half a mile back. On passing up the bed of the stream, the banks rise almost perpendicularly, and are but a few yards asunder when the foot of the fall is reached; here the sun penetrates only for an hour at midday. This is a fit place for the legends of the natives, and it is understood that it was intimately connected with their mythology. This part of the island has now few inhabitants, but from the appearance of the extensive taro-grounds, it is believed to have been formerly densely populated.

The Koolaulo flat continues further, passing by Kaneohe to the east end of the island, where the arable land decreases very much in width.

The climate of Waialua, as I am informed by the Rev. Mr. Emerson, is rather cooler than that of Honolulu, and there is no annoyance from dust. The thermometer ranges from 75° to 80°, and has not fallen below 55° for several years, and rarely below 60°. The climate is usually looked upon as healthy, except during the prevalence of the northwest wind, which is found to affect injuriously those having pulmonary complaints.

As to industry, the habits of the people are improving, which is discernible in their comparative willingness to labour for hire, and their improvement in dress. Eight years before our visit, there were but two persons who appeared at church in shirts or pantaloons: more than one-half now wear these garments, and the women instead of tapa for the most part wear cloth. Formerly a man laboured with great reluctance later than two or three o'clock in the afternoon, and rarely worked later for the chiefs or themselves; at the time of our visit they would do a full day's work, and this too without superintendence. A little improvement is also manifested in their dwellings, a few of which have been constructed of adobes, and whitewashed; but they for the most part pertinaciously adhere to the materials and mode of building of their ancestors. Some, however, have enlarged their doors, as well as the size of the houses; have paid some regard to ventilation, and improved the quality of their sleeping-mats.

The slow progress of improvement in this district, is thought to have been owing to the uncertain tenure of property; but as the new constitution and laws provide for this, it will no longer be an impediment.

The schools in this district number eleven, which are taught by native teachers, under the superintendence of the missionaries. The number of children who attend them averages about four hundred, which is about half the number in the district. The scholars are between four and sixteen years of age. Messrs. Emerson and Locke are both of opinion, that the Hawaiian children are not inferior in intellect or in aptitude for handicraft to other children having equal advantages.

There is one church in the district, on whose first establishment, seven years previous to our visit, it had five hundred and eighty-three communicants; of these eight have died, eighteen were dismissed to join other churches, fifty-nine expelled for unchristian conduct, and four hundred and ninety-eight are now connected with the church. Most of the latter have a good degree of conscience, and some sense of Christian obligation, whilst others, as might be expected, are apparently little more than in name Christians.

From 1832 to 1839, there were four hundred and forty-five marriages. There has been a register of the births and deaths kept for a part of the time, which would go to show that the former was to the latter as one to two. Some particular years seem to have varied somewhat from this: in Waialua, forty-five births to one hundred and thirty-six deaths. In another place the proportions were as seven to seventeen; and in a third, as two to eight, without any prevailing disease. In 1836, at Waialua, the births were thirty-four, the deaths ninety; in 1839, fifty-six to one hundred and eighty-five.

The population in 1832, at Waialua, was 2,640; in 1836, 2,415; decrease in four years, 225.

From the great differences between the several places, without the existence of any epidemic, one is led to believe that mistakes may have been made in the register; the general belief, however, is, that the numbers that will represent the decrease most accurately, are the above.

The causes of decrease in this district are supposed to be sterility and abortion; the latter is quite common, and instances are known where women have had six or seven, and sometimes as many as ten, in the same number of years, and no living children.

Infanticide has been practised to some extent, down to 1840. From facts derived from the natives, it would appear that both personal and mutual abuse at an early period of life between the sexes, holds a prominent place among the causes of this decrease.

The law of marriage it is thought will have a wholesome influence. Mr. Emerson has never heard of more than one instance where the fear of punishment for the breach of the laws of chastity has produced infanticide. The laws which formerly existed, requiring parents to pay taxes for children over ten years of age, may have had that tendency. It is ascertained that the repeal of this law, and the enactment of the one now existing, which offers a premium for large families of legitimate children, have induced many to take care of their offspring. The law which compels unmarried women found to be *enceinte* to work on the roads, may perhaps have had a tendency to cause the commission of this crime.

Intemperance has again made its appearance within a year in this district, and the introduction of rum, brandy, &c., under the French treaty, has had its effect upon the common people; for although these liquors are too dear for them to purchase, they will follow the fashion, and in lieu of spirits use ava, or some a fermented drink made of potatoes, water-melons, or the ti: many bad consequences are the inevitable result.

Messrs. Rich and Brackenridge, accompanied by Mr. Emerson, made an excursion to reach the top of the Kaala range of mountains. They were unfortunate in the selected day; for shortly after they reached the mountain, it began to rain, which rendered climbing on the narrow ridge very difficult. This was in some places not more than two feet wide, about fifteen hundred feet high, almost perpendicular, and extremely dangerous from its becoming slippery with the wet. The ridge became in a short time so narrow, that they were compelled to go astride and hitch themselves along, until, as they thought, they had attained the altitude of two thousand five hundred feet, when they deemed it impossible to reach the top, and concluded to retrace their steps. As they returned, they collected many interesting plants; among them a shrubby Viola, about two feet high, with a slightly fragrant white flower; Exocarpus cupressiformis, the same as the native cherry of New South Wales; and near the base of the mountain, forests of Erythrina monosperma (of Hooker), the wood of which was used by the natives for making out-riggers for their canoes.

The next day they proceeded on their way to Honolulu, across the plain between the two ranges of mountains. This plain, in the rainy season, affords abundance of food for cattle in three or four kinds of grasses, and is, as I have before remarked, susceptible of extensive cultivation by irrigation from the several streams that traverse it. The largest of the streams is the Ewa. Scraggy bushes of sandalwood and other shrubs are now scattered over a soil fit for the cultivation of sugar-cane and indigo.

At Ewa they were kindly received by the Reverend Mr. Bishop and lady, who have charge of the station. The district of Ewa commences about seven miles to the west of Honolulu, and extends twenty miles along the south shore, or from the hill in the vicinity of the salt lake to beyond Laeloa or Barber's Point. There are no chiefs or any persons of distinction residing in the district; the people are labourers or Kanakas, and the landholders reside near the king at Lahaina, or at Honolulu. The taxes and occasional levies without any outlay have hitherto kept them poor.

In this district is a large inlet of the sea, into which the river Ewa empties; at the entrance of this inlet is the village of Laeloa: the whole is known by the name of Pearl River or harbour, from the circumstance that the pearl oyster is found here; and it is the only place in these islands where it occurs.

The inlet has somewhat the appearance of a lagoon that has been partly filled up by alluvial deposits. At the request of the king, we made a survey of it: the depth of water at its mouth was found to be only fifteen feet; but after passing this coral bar, which is four hundred feet wide, the depth of water becomes ample for large ships, and the basin is sufficiently extensive to accommodate any number of vessels. If the water upon the bar should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbour in the Pacific. As yet there is no necessity for such an operation, for the port of Honolulu is sufficient for all the present wants of the islands, and the trade that frequents them.

Pearl-River Harbour affords an abundant supply of fine fish. Two species of clams are procured here, called by the natives okupe and olepe. Mr. Drayton, who went to Pearl River for the purpose of examining its shores, and obtaining shells, reported that he found a large bed of fossil oyster-shells, extending into the bank in a bed from one to four feet wide, and half a mile in length: they were found cemented together with soft limestone and a reddish sand, and were so numerous that there was scarcely enough of the cement between to hold them together. The dredging was unsuccessful, a small spotted venus being the only shell that was obtained, although it was the general belief, among both the foreign and native inhabitants, that it would have produced an abundant reward for the trouble.

In Mrs. Bishop's garden was seen the Agati grandiflora, (which is a beautiful native plant, producing very large flowers in clusters, of a deep orange, with a bright scarlet tint,) in full flower. Seeds of this plant were obtained, and Mr. Brackenridge has succeeded in raising plants of it in the conservatory at Washington. It will prove a valuable and highly ornamental addition to our green-houses.

This district, unlike others of the island, is watered by copious and excellent springs, that gush out at the foot of the mountains. From these run streams sufficient for working sugar-mills. In consequence of this supply, the district never suffers from drought, and the taro-patches are well supplied with water by the same means.

The soil on the sides of the hills is a hard red clay, deemed useless except for pasturage. Here and there in the valleys passing through these hills and in the low grounds, is found a soil capable of producing all the varieties of tropical vegetation.

There is every indication that an elevation of the island has taken place: the flat land is now fifty or sixty feet above the level of the ocean, and the upper rock has the appearance of calcareous sandstone. The latter lies on a bed of lava, part of which is above, but a greater portion below the ocean level. There are above this rock and on the plain behind some horizontal beds of sea-worn pebbles. It seems remarkable, however, that although this upper rock will effervesce with acids, yet all attempts that have been made to convert it into lime have failed. It has been put into the same kiln with the present reef coral, and while the latter produced good lime, the former came out unchanged,—a pretty conclusive proof that it is not coral rock, as it appeared to be. As this rock will be treated of in the Geological Report, I shall refer the reader to it for further information.

At Ewa, Mr. Bishop has a large congregation. The village comprises about fifty houses, and the country around is dotted with them. The village presents an appearance of health and cleanliness, clearly indicating the influence Mr. Bishop has exerted over his flock, in managing which he is much aided by his lady.

The church is a large adobe building, situated on the top of a small hill, and will accommodate a great number of persons. Mr. Bishop sometimes preaches to two thousand persons.

The natives have made some advance in the arts of civilized life; there is a sugar-mill which, in the season, makes two hundred pounds of sugar a day. They have been taught, and many of them are now able to make their own clothes, after the European pattern. There is a native blacksmith and several native carpenters and masons, who are able to work well.

In 1840, the church contained nine hundred members, seven hundred and sixty of whom belonged to Ewa, the remainder to Waianae; but the Catholics have now established themselves at both these places, and it is understood are drawing off many from their attendance on Mr. Bishop's church. Schools are established, of which there are now three for children under teachers from Lahainaluna. Mr. Bishop informed me that there was great difficulty in procuring suitable teachers, and a still greater difficulty in raising funds for their support. The teachers complain much of their inability to secure a regular attendance from their scholars, which is thought to result from a want of parental authority at home, and their leaving it optional with the children to attend school or not.

This district contained in 1840 two thousand seven hundred and ninety-two inhabitants, and there is no satisfactory evidence of a decrease, although many speak of it as being great; but the latter opinion is formed from the census of 1836, which was on many accounts inaccurate, and ought not to be taken as authority on which to found such a statement.

This is the best part of the island of Oahu for raising cattle and sheep, which are seen here in greater numbers than elsewhere.

Dr. Pickering and Mr. Brackenridge made a tour to Waianae, for the purpose of examining more particularly the Kaala Mountains for plants. Waianae lies on the southwest side of the range, and on the sea-shore under it. After stopping a night at Ewa, they took a middle route, and passing through a gap in the mountain, fifteen hundred feet in elevation, reached Waianae in the afternoon, a distance of sixteen miles. Here they were kindly welcomed by the chief, who acts in the capacity of ruler, preacher, and schoolmaster; he is, likewise, a fisherman, and a manufacturer of wooden bowls, in which he showed himself quite expert.

The natives are much occupied in catching and drying fish, which is made a profitable business, by taking them to Oahu, where they command a ready sale.

The population is about fifteen hundred, one thousand of whom belonged to the church under the superintendence of the Rev. Mr. Bishop; but since the establishment of the Catholics, one half have joined in their mode of worship.

While at Waianae, they extended their walks in different directions, along the beach, at the foot and sides of the mountains, meeting with several very interesting plants: at the base of the mountains several half deciduous trees, and bushes of sandalwood (Santalum freycinetiarum). It was observed that the stems of the trees and plants were very succulent, which enables them to withstand the severity of the droughts; the quantity of rain that falls here being very small.

They endeavoured to make an ascent on one of the ridges, but found themselves obliged to give it up, when they had reached half the altitude of the mountain.

Travelling here, they witnessed an economy of time that would have been remarkable in any country. At a house, one of the natives who accompanied them procured a chicken and some hot stones from a fire; he then tied them up together, and carried them along: when they arrived at the next stopping-place, the chicken was produced ready cooked!

On the plain behind the village, they found the Agati grandiflora growing in a wild state; the flowers were smaller and of a darker orange than those seen cultivated.

They left Waianae after being two days with the chief, who charged them four dollars for their lodging, which will give some idea of native prices. Passing the mountain range by a different route, their collections of plants were but little increased. A new species of Morus, a singular plant belonging to the Violaceæ family, a Dracæna of robust growth, and a few ferns, were all that they obtained.

Mauna Kaala has the appearance of being a flat-topped mountain; but this is not the case, the evenness of the ridge alone giving it that appearance.

The salt lake, so much spoken of, was visited many times; it has excited a great deal of curiosity, being supposed to be fathomless, and to ebb and flow with the tide.

I landed with my friend, Dr. Judd, of the mission, near the foot of the hills which enclose the salt lake, and levelled from low-water mark upwards, over the hill, and down to the lake. The result gave one hundred and five feet rising, and one hundred and three feet falling, which proves it to be on the same level as half-tide. Dr. Judd engaged some natives to carry over a canoe to the lake, in which we embarked, well provided with long sounding-lines, to ascertain its reputed great depth; after much search, no fathomless hole was to be found, and no greater depth than eighteen inches! To find out if it ebbed and flowed was the next step; for this purpose, sticks were placed on the shore, which is so shelving that a small perpendicular rise and fall would be quite evident. There was no tide perceived after several hours' watching. A little rise above the tide-sticks took place, but nothing beyond what would be occasioned by the wind, which had sprung up, blowing the water to the lee side. Large quantities of salt were seen, piled in heaps on the hills to allow it to drain: this is the property of the king, and yields him a considerable annual income. It is considered as the best for salting provisions, and therefore commands a higher price than other salt manufactured on the island; it is also used as table-salt at Honolulu. In the lake it is found crystallized, and crystals are readily formed on branches of trees that have been put into the water.

The deposit in the lake is mud of a blue-black colour, and exceedingly tenacious, almost as much so as an unctuous clay.

Some small particles of salt were found on the hill-side, adjacent to the lake, which might lead to the inference that the soil was impregnated with salt; but the habit of the natives has been, from time immemorial, to carry the salt to the tops of the hills to drain, which will readily account for its appearance there. The opinion, however, was entertained by some that it proceeded from the soil. The lake is about one-third of a mile in diameter, and has the appearance of having been the basin of a crater. If this should be the case, it must necessarily be admitted that there are two others in juxtaposition with it to the west, with partition walls between; the latter are not as distinct in their outline as the salt lake. All of them, however, appeared to me very different from the coast craters of the island. Within a short distance inland from the salt lake, is a deep ravine or valley, that shows the formation to be the compact limestone before spoken of, with the stratification of pebbles, &c. All these appearances united, give me the idea of the basin having been caused by an action different from that by which craters are formed.

The lake, after the discovery relative to its being but knee-deep, was the subject of much discussion at Honolulu. It was visited on several occasions afterwards, to ascertain if it had an ebb and flow, and simultaneous observations were made at the shore and in the lake; but all the trials confirmed the first observations.

On the east end of the island are numerous caves, which Messrs. Drayton and Dana visited: they are situated in a bluff of three hundred feet elevation, and the mouths of them are at about two-thirds the height. Most of these caves are accessible by ascending along the sides of the bluff obliquely. The natives formerly used them for the burial of their dead, and at times they are still so appropriated. One was walled up, and a strong pole was lying against the rock, which the natives said had been used to bring the body to the place. In the centre of the wall which closed the mouth of the tomb, was a piece of white tapa, the deposit of which in tombs is one of their ancient customs that is still adhered to on this side of the island.

These caves are the effect of volcanic action, and were called by the natives Kaualahu. Their guide having provided them with torches of the tutui-nut, they ascended to one of them, two hundred feet above the sea, where, having lighted the torches, they entered to the distance of about one hundred feet. Here they found deposited a number of bones, among which were only two skulls. On another side was a heap of stones, covering more bones and some entire skeletons: to remove these stones would have occupied more time than they had to spare, or than their feeble lights would allow.

Taking up the two skulls, they returned to their guide's house. Thence they made a visit to two hills, very near to the sea, called Kaalau Pele and Kuamuakuai. These hills are composed of yellow and brown sand, interspersed with pieces of lava, and have a resemblance in colour and shape to the Punchbowl Hill, back of Honolulu.

The height of the hill nearest the sea was estimated at five hundred feet. At its base are several old craters, one of which is entirely in the sea, and shows its perpendicular walls on the side next the hill.

There are also here extensive fish-ponds, belonging to the king, in which the usual fish are kept—mullet.

There are also a number of ponds where the natives manufacture large quantities of salt.

Kaneohe is the mission station for the north side of the island; it is in the district of Pali-Koolau, and includes the eastern part of the north side of the island, about twenty-five miles in extent. Kaneohe is situated in the centre of it, and lies just beneath the Pali, back of Oahu, heretofore spoken of.

The harbour opposite to Kaneohe is called Waialai, and was surveyed at the request of the king. At its entrance it was found to have only nine feet of water, a depth too little except for the small vessels of the island. This harbour is formed by the peninsula of Mokapu.

This district contains four thousand five hundred inhabitants, among whom it was said that a decrease had taken place; but as this assertion seemed unsupported by any satisfactory evidence, it is not entitled to much attention.

The productions of this district are the same as those of the island generally; the natives seem to be directing their attention to the raising of sugar and coffee, and being within a short distance of Honolulu, they resort to it with their produce for a market. The climate is cooler by a few degrees than that of the opposite or leeward side of the island. Frequent showers keep up a constant verdure.

There are eleven schools in the district, which give instruction to about five hundred children. The church has increased in four years to two hundred members. Of marriages, there are about seventy annually.

On the 6th of November, the Flying-Fish returned to Honolulu.

In the neighbourhood of Honolulu, there are a number of fish-ponds belonging to the king, in which are bred several kinds of fish. There are many other ponds belonging to individuals. The taro-patches are used occasionally for this purpose, and not unfrequently are seen to contain large fish; thus poe and fish, their principal food, though of such opposite natures, are raised together.

They have several modes of taking fish, with the net and hook, and sometimes with poisonous herbs.

They likewise take shrimps and small fish by forming a sort of pen in the soft mud, in one corner of which a net is placed; the shrimps and fish leap over the enclosure of the pen, which is gradually contracted towards the net, which acts like a large seine.

The most conspicuous point about Oahu, is the noted crater on its east end, called Lealu or Diamond Hill. This lies about four and a half miles from Honolulu, and forms a very picturesque object from the harbour. It is the largest coast-crater on the island, and was visited by many of us. The rock, for the most part, consists of vesicular lava, very rough and black. The ascent to it is somewhat difficult. On the margin of the crater, calcareous incrustations are formed. It is quite shallow, and between a half and a third of a mile in diameter. There is no appearance of a lava-stream having issued from it. Its surface is thickly strewn with lava-blocks, which were also found embedded in the coral rock along the shore. The raised coral reef was also seen here, where it is partially decomposed, so as to resemble chalk, and had been quarried. This rock was found to contain fossils of recent species.

At the foot of this hill, on the western side, are the remains of a heiau or ancient temple. Certain ceremonies were performed on the consecration of these temples, a description of which my friend Dr. Judd obtained for me, from the best native authorities, and for which I must refer the reader, who may be curious in such matters, to Appendix III. The mode of building these structures, if so they may be called, was for each of the inhabitants, both high and low, to bring stones by hand. They are usually quadrangular. The one above noticed was on the hill-side overlooking the plain lying towards Honolulu, on which is the village or town of Waikiki.

Off the village of Waikiki there is an anchorage, and the reef between it and Honolulu is extensive. The natives derive great advantage from this reef in the way of food.

Between Waikiki and Honolulu there is a vast collection of salt-ponds, and I was greatly surprised to find the manufacture of it so extensive. It is piled up in large heaps, in which there was, when I saw them, from one to two hundred tons. The salt is now exported to California, China, Oregon, Kamtschatka, and the Russian settlements at Sitka. The natives use it for salting fish and pork, an art which it is said they have long practised.

The women are also frequently seen collecting, in the salt-ponds, Confervæ and Fuci (sea-weed) for food.

The repairs of the squadron were, by the 10th of November, rapidly drawing to a close. In examining the bottoms of the vessels we had made use of a diving-dress of India-rubber with which we were provided. This apparatus excited a great deal of curiosity among the natives and inhabitants of Honolulu. With it we succeeded in repairing a few places in the copper that had been injured on those occasions when we had struck.

On the 16th of November, the Porpoise being ready, sailed for the Low Archipelago or Paumotu Group. The orders given on this occasion to Lieutenant-Commandant Ringgold, will be found in Appendix VII.

POE EATING.

# CHAPTER III.

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THE TENDER IS DESPATCHED TO HAWAII—THE PORPOISE SAILS ON A SEPARATE CRUISE—PREPARATIONS FOR THE ASCENT OF MAUNA LOA—KEALAKEAKUA—NAPOLO—FACE OF THE COUNTRY—ITS PRODUCTIONS—ITS CLIMATE—ITS IMPROVEMENTS—ITS POPULATION—SCHOOLS—DISEASES—MONUMENT TO MARK WHERE COOK WAS KILLED—DISTRICT OF KAILAU—ITS CLIMATE—ITS POPULATION—DWELLINGS—SCHOOLS—KUAKINI, OR GOVERNOR ADAMS—INDUSTRY OF THE NATIVES OF KAILAU—TRADE—USEFUL ARTS—COTTON MANUFACTURE—VICES—DISEASES—MISSIONARIES—PLANTS—EXCURSION OF THE NATURALISTS—TEMPLE OF KAILI—MOUNTAIN GEESE—LAVA STREAMS—OLD CRATERS—GRAZING LANDS—ARRIVAL AT HILO AND RETURN TO HONOLULU—PLAN FOR THE FURTHER OPERATIONS OF THE SQUADRON—PEACOCK AND FLYING-FISH—CASE OF GIDEON SMITH—CASE OF CAPTAIN DOWSETT—PROPOSED EMPLOYMENT OF THE VINCENNES—SAILING OF THE PEACOCK AND TENDER.

# CHAPTER III.

## HAWAII AND OAHU.

1840.

Shortly after our arrival, orders were given to be ready for sea by the 11th of November, at which time it was my desire that we should again be on active duty. Finding, after the return of the tender from Kauai, that the Vincennes and Peacock would necessarily be detained beyond this time to complete their repairs, and wishing to afford the naturalists belonging to the Peacock an opportunity of visiting Hawaii, I gave Messrs. Peale, Rich, and Dana orders to rejoin the tender on the 10th of November. I also gave Mr. Knox instructions to proceed direct to Kealakeakua Bay, to land them there, and to be again ready to receive them in a week afterwards at Hilo Bay, on the opposite side of the island. The party would thus be enabled to cross the island, which I had no hopes of being able to accomplish with the naturalists attached to the Vincennes, as I believed we should all have enough to occupy us fully in the contemplated trip to the top of the mountain, and the examination of the volcanic eruptions. On the same evening at 10 p. m., they went to sea, sweeping out of the harbour, and proceeding on their trip.

In the mean time our preparations for duty were actively progressing. The Porpoise sailed on the 16th of November, under orders for the Paumotu Group.

Preparations were making on board the Vincennes for our trip to the mountain. Dr. Judd, of the mission, at my solicitation, consented to accompany me, as did also Mr. Brinsmade, our consul. The former kindly offered to take all the preliminary steps in reference to the arrangements with the natives, and to procure suitable travelling equipments, in the shape of large calabashes, &c. These last are deemed on these islands a most necessary appendage for travelling, and are admirably adapted for the purpose, being exceedingly light and having great capacity. When in the care of a native, although extremely fragile, they are quite secure; they are surrounded by a net made of fine twine or sennit of the cocoa-nut.

To the forethought of Dr. Judd, and his judicious preparations, I feel that much of our success is owing in overcoming many of the difficulties that we met with.

Finding that both the new launches could not be finished in the prescribed time, arrangements were made to complete the one intended for the Peacock, and to defer the finishing of that belonging to the Vincennes until our contemplated return in April; for I deemed that the old one, although ill adapted to our wants, would answer all that we absolutely required of her previous to that time.

On the 24th, all were ordered to join the ships. The tender, agreeably to her orders, returned on the 28th, and the launch of the Peacock being ready, was taken on board on the 29th of November.

Before taking up the cruises of the ships, however, I shall give an account of the tender's trip to Hawaii.

The naturalists were accompanied by Mr. Hall, a gentleman attached to the mission, who kindly volunteered to attend them, and to whom they were much indebted for his great usefulness, both as interpreter, and for the knowledge he possessed of the country. They had, besides, two or three natives who spoke English tolerably well.

They were detained by calms and light winds, so that they did not reach the bay of Kealakeakua until ten o'clock at night, when, having obtained the guidance of some fishermen, they anchored in the dark.

This bay derives its name (path of the gods) from a slide in the hill, which is still visible, which the gods are said to have used in order to cross the bay quickly. It is of no great extent, and opens between two low and barren hills, on each of which a town is situated.

Between them a high perpendicular bluff rises directly from the water, in which are seen numerous caves: in these the natives formerly buried their dead, and still use occasionally for the same purpose. These caves appear inaccessible, and are the resort of vast numbers of birds.

On the 14th (Saturday), they landed at Napolo, and were kindly received by Mr. Forbes, the resident missionary for the district of Kealakeakua. They were greatly disappointed when they found it would be impossible to proceed on their tour that day, and that their departure would have to be deferred until Monday, as it would be impossible to prepare the food necessary for the journey in a day and the next being Sunday, no natives could be persuaded to travel until Monday. On the nights of their stay with Mr. Forbes, they distinctly saw the heavens lighted up by the fires of the volcano of Kilauea Pele, although at the distance of forty miles. This mission station is on the west side of Hawaii, and on the south side of the bay of Kealakeakua.

Almost the whole coast of this district, extending forty miles, is one line of lava. This frequently lies in large masses for miles in extent, and is in other places partially broken, exhibiting perpendicular cliffs, against which the sea dashes with fury. This formation extends half a mile into the interior, and as the distance from the sea increases, the soil becomes richer and more productive. The face of the country, even within this rocky barrier, is rough and covered with blocks and beds of lava, more or less decomposed. The land in places reaches the altitude of two thousand feet, and at a distance of two miles from the coast begins to be well covered with woods of various kinds of trees, which are rendered almost impassable by an undergrowth of vines and ferns. In these woods there are many cleared spots, which have the appearance of having been formerly cultivated, or having been burnt by the descending streams of lava. In some places, these strips of wood descend to within a mile of the shore, having escaped destruction. These are in no place parallel to the shore, but lie always in the direction which the streams of lava would take in descending from the mountains.

Cultivation is carried on in many places where it would be deemed almost impracticable in any other country. There are, indeed, few places where a plough could be used in this district, although there is a strip of good land from three to five miles wide, having the barren lava-coast on one side and the forest on the other. This strip produces, luxuriantly, whatever is planted on it, the soil being formed of decomposed lava, mixed with vegetable matter. The natives, during the rainy season, also plant, in excavations among the lava rocks, sweet-potatoes, melons, and pine-apples, all of which produce a crop. They have little inducement to raise any thing more than for their immediate wants, as there is no market, except one of limited extent at Kailau, which is fifteen miles distant. Two or three whale-ships touch here during the year, and take in a few provisions and wood, but this is not a sufficient stimulus to induce exertions on the part of the natives to cultivate the soil, or to produce industrious habits.

The only staple commodities are sweet-potatoes, upland taro, and yams. The latter are almost entirely raised for ships. Sugar-cane, bananas, pine-apples, bread-fruit, cocoa-nuts, and melons, are also cultivated. The Irish potato, Indian corn, beans, coffee, cotton, figs, oranges, guavas, and grapes, have been introduced, and might be successfully cultivated, if there was any demand for them.

The climate is mild throughout the district. The thermometer ranges between 62° and 76° in the winter, and from 70° to 86° in the summer, and seldom above 86° or below 62°; this, it will be remembered, is on the lee side of the island. They seldom have strong winds; and in the day they enjoy a cool sea-breeze, which changes to the land-breeze at night.

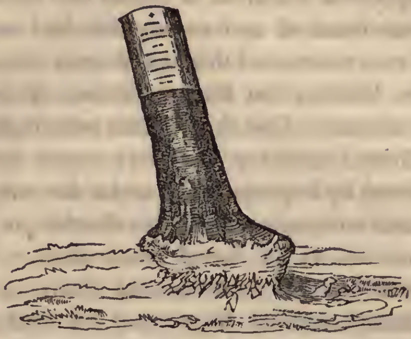
From May to September is the wet or rainy season, when they experience a good deal of rain; and this is also the growing season.

In December, January, and February, they have usually very dry weather, and the winds prevail from the north, from which quarter it sometimes blows fresh.

The natives are better off here than could have been expected, and some of their houses are large and airy. The chiefs set a good example in this respect. Kapiolani, one of the chief women, has a very comfortable two-story stone dwelling. They have also built a stone church, one hundred and twenty-five feet long by sixty feet wide.

Good paths for horses have been made throughout the district, with much labour. An evident improvement has taken place in the habits of the females, who nave been taught the use of the needle, and other feminine employments. Kapiolani has been very assiduous in introducing improvements, and she has caused to be erected a sugar-mill, to introduce the manufacture of sugar, and make it an object for the people to raise the cane.

Our gentlemen, during their detention, crossed over to the north shore of the bay of Kealakeakua, to visit the place were Captain Cook was killed. The natives pointed out the spot where he fell, which was on a rock, the most convenient for landing of any in the vicinity, as it is somewhat protected from the swell by a point of lava rocks. Within a few yards there is a stump of a cocoa-nut tree, at the foot of which he is said to have breathed his last. The top of this tree had been cut off and carried to England by H. B. M. ship Imogene. It is now treasured up in the museum of the Greenwich Hospital, which I cannot but feel was an appropriate disposition of it, calculated to recall his memory to the minds of the thousands who view it, and inspire in them the feeling of proper pride, in finding that the country appreciates so remote an emblem of their distinguished countryman. If any thing is capable of inspiring ambition to exertion in deeds of valour or of usefulness, such things must assuredly have that effect. The drawing of the stump of this tree, is from a sketch made by Mr. Peale, who remarks that this monument will last as long as the rock on which Cook stood when first wounded, as every one who visits the place breaks fragments from the latter.



CAPTAIN COOK'S MONUMENT.

The following is the inscription on it:

✝

NEAR THIS SPOT
FELL
CAPTAIN JAMES COOK, R. N.,
THE
RENOWNED CIRCUMNAVIGATOR,
WHO
DISCOVERED THESE ISLANDS,
A. D. 1778.
HIS MAJESTY'S SHIP
IMOGENE,
OCTOBER 17TH, 1837.

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THIS SHEET OF COPPER AND CAP PUT ON BY SPARROWHAWK,
SEPTEMBER 13TH, 1839,
IN ORDER TO PRESERVE THIS MONUMENT TO THE MEMORY OF COOK.

I could have wished that the first inscription, relating solely to Cook, was the only one; the other, it seems to me, was not worthy of being associated with any thing connected with so great a name; and good taste and proper feeling I think would have shrunk from inscribing it as well as the following on another part, "*Give this a coat of tar.*"

The inhabitants of this district are nine thousand. The marriages are about one hundred yearly. The population is thought to be decreasing, but this is assuming as correct the former census, which I have before said is not to be relied on. The grounds on which this decrease has been supposed to exist were, that it was found that of fifty-six mothers, taking old and young promiscuously, were born two hundred and sixty-seven children, of whom one hundred and twenty-nine are living, one hundred and twenty-five died very young, mostly under the age of two years, and thirteen at ages beyond ten years. It is thought by Mr. Forbes, that this proportion of deaths would hold good through the district. One thing seems certain however, that they do not all die from hereditary diseases; many are carried off by diarrhœa, occasioned by improper diet, and a few are stillborn. There has also been much emigration from this district to others, and many have embarked as sailors on board whale-ships. The laws under which they formerly lived, have caused them to be improvident. They have frequently suffered from want of food; and not unfrequently they are obliged to work without either good water or sufficient nutriment.

From all accounts, cases of infanticide are rare, nor, as we have before observed, is it thought that the law prohibiting illicit intercourse has had a tendency to increase it. One of the causes which formerly made it frequent, was the husband leaving his wife for another woman, which invariably led to her destroying the child.

As respects intemperance, there has been no native seen intoxicated for several years.

There are twenty-three schools, one of which is kept by the missionaries, and the others by natives, some of whom have been educated at the high-school at Lahaina. The number of scholars is between seven and eight hundred.

The principal diseases are those of a scorbutic character, cutaneous eruptions, remittent fevers, catarrhs, and inflammation of the viscera; these are the most fatal. Diarrhœa, dysentery, and ophthalmia also prevail to some extent.

The southwest side of Hawaii is termed the district of Kona, and includes Kealakeakua and Kailau. Having already spoken of the former, I shall now refer to the latter; more especially as from all accounts I heard of it, the natives are more advanced in the useful arts than elsewhere, and are now less dependent on foreigners.

The town of Kailau is the residence of Kuakini, better known among foreigners by the name of Governor Adams, who is governor of Hawaii.

This district lies to the north of Kealakeakua, and begins about five miles from Napolo. It is similar to it in character, but the lava is of more recent formation, the eruptions from Hualalai having flowed down and covered nearly the whole northern portion. This eruption happened about thirty years since, in 1809 and 1810. Hualalai is between seven and eight thousand feet in height, and rises abruptly on its west side.

Rain seldom falls on the coast, except in showers, and a rainy day once in the year is looked upon as something remarkable. This, together with the absence of all dew, prevents the existence of much cultivation; it affords, nevertheless, a coarse vegetation, sufficient to pasture a few hundred goats; but, a mile back from the shore, the surface is covered with herbage, which maintains cattle, &c.; and two miles in the interior there is sufficient moisture to keep up a constant verdure.

Here, in a belt half a mile wide, the bread-fruit is met with in abundance, and above this the taro is cultivated with success. At an elevation of between two and three thousand feet, and at the distance of five miles, the forest is first met with. The trees of this are suitable for building timber, and boards and shingles are made of them. The products of this portion of Kona are the same as before described.

The prevailing winds are the land and sea breezes, which are very regular; there are likewise strong north winds, but the most severe gales are those from the southwest, which the natives term kona; these last from a few hours to two and even three days, and are followed by rain: they are seldom strong enough to injure the houses.

Here the temperature is very mild and equable. During the winter the thermometer ranges, at sunrise, from 64° to 78° F.; at midday, 76° to 85°; at sunset, 70° to 80°. In summer the range is 68° to 80° at sunrise; at midday, 78° to 86°; and at sunset, 72° to 81°. I have not been able to get any data for the amount of rain that falls.

The population in 1839 was 5,943, which was only fourteen less than in 1835. It is the opinion of the missionaries that the population is not decreasing by death, and it is thought that any apparent decrease is owing to removals, or if not to this cause, perhaps to an error in the census. The register of births and deaths for nine months, in 1839, would seem to confirm this, there being one hundred and twenty-three births and ninety-one deaths, or thirty-two in favour of the former.

The result of the inquiries of Dr. Andrews, the resident physician, shows a great mortality among the children. Out of ninety-six married females, nearly all under forty-five years of age, twenty-three had no children; the remaining seventy-three had two hundred and ninety-nine, of which one hundred and fifty-two did not survive the second year; a large proportion of them died at from six to ten months old; six died between two and ten years, and fourteen died when over ten years old.

The dwellings of the natives are a little improved, and Governor Adams has the best-built stone house in the Hawaiian Islands. He has also a cotton factory constructed of stone, and by his influence there has been erected a large stone church and a school-house. He also gives much attention to the schools, and has twenty-three in his district for adult scholars, who are six or seven hundred in number; and thirteen for children, with about five hundred pupils: all of these are taught by natives. To these is to be added a school for girls, taught by the ladies of the mission, numbering fifty-five scholars.

Governor Adams, like all individuals of his class who are desirous of improving his countrymen, is represented by the low foreigners to be of a miserly and grasping disposition, and they say that he has acquired large stores of wealth, which he hoards up. He is certainly much respected by all those not engaged in trade, and spoken highly of by the natives over whom he rules. He is admitted, however, by both foreigners and natives, to be one of the most shrewd and intelligent of the nation, and desirous of turning all things to account, competing even with foreigners. I had not the pleasure of meeting with him, of which I was desirous; for, owing to our unexpected detention at Oahu, we did not reach Hilo so soon as we had intended, and he was obliged to return to his home on the opposite side of the island. Being a man of large dimensions, as the chiefs usually are, he was deterred from performing so toilsome a journey again during our stay.

The industry which prevails in his own particular district certainly shows uncommon exertion on the part of some one; and the fact that the natives are better clad, and more inclined to steady employment when they have no markets for the sale of their produce, speaks much in their favour. Any branch of industry that is likely to produce profit, and that will yield them the means of procuring clothing, is engaged in with avidity.

There is only one store, where sandalwood, tutui-nuts, beans, corn, palm-leaf hats, and mustard-seed, are exchanged for goods. Corn (maize) is becoming quite an extensive article of commerce, and its cultivation is rapidly extending; cotton is likewise attended to. There is, indeed, little doubt, but that this people, under proper encouragement, will become industrious and prosperous.

A considerable trade is kept up between the south and north end of this district. The inhabitants of the barren portion of the latter are principally occupied in fishing and the manufacture of salt, which articles are bartered with those who live in the more fertile regions of the south, for food and clothing.

Some knowledge of the arts has been acquired, and the mass of the people manifest much ingenuity in the manufacture of various articles for convenience and comfort. A few have shown some skill in carpentry, having acquired this knowledge entirely by looking on and practising. Some have in the same way acquired the art of laying stone; and the large house of Governor Adams, heretofore spoken of, was entirely built by natives, under the superintendence of a foreigner. Others have been entirely erected by native workmen. Some have also become blacksmiths, and comb-makers, and a large number of native women are employed in making palm-leaf hats, which are of good quality.

Governor Adams intends that his cotton manufactures shall supersede European goods. Such undertakings cannot but excite interest in all who are looking to the general improvement and civilization of the islands of Polynesia. Like all first attempts at manufacturing, it was attended with difficulties; and as it may possess interest with some, I will give an account of its progress.

In 1837 an edifice of stone was erected, using mud instead of lime-mortar, for the proposed works, thirty by sixty feet, with a thatched roof, and well lighted with glazed windows. About twenty wheels were made by natives, after a model furnished by a foreign carpenter, except the wheel-heads, which were of American manufacture. A small Chinese gin was employed to free the cotton of the seeds, only a trifle better than using the fingers; the cards were imported from the United States. Thus prepared, the work went into operation on the 1st of January, 1838.

Three females, who had made a tolerable proficiency in the art of spinning, and had been taught by the American missionaries residing at Maui, were procured as teachers. Under these, thirty women and girls, from ten to forty years of age, began spinning; they soon equalled their teachers, and many of the younger ones excelled them.

Two looms and other necessary apparatus were next procured, and also a foreigner to teach the use of them. He was engaged for several months in the establishment, during which time he had under his instruction four young men, with whom he wove several pieces of brown stripes and plaids, plain and twilled cotton cloth. After this time, the natives were able to prepare and weave independently of his aid. Becoming dissatisfied, however, all left the work, together with the foreigner; but after some time they were induced to return to their work. This small establishment has ever since been kept up entirely by the natives. It is succeeding with this aid alone, and is probably the only one of the kind in Polynesia.

In this district, no cases of intoxication had been seen for some years prior to the French treaty; but since that time, an American resident at Honolulu has introduced spirituous liquors, by which a number of natives have been once more led back to this vice.

No cases of infanticide have been heard of here.

The acute diseases which prevail in Kailau, are inflammation of the lungs, pleura, and peritoneum; but these are not frequent. Acute inflammation of the eyes is common, but generally yields readily to medical treatment. Fevers of the synochus type are common; typhus is rare, if it ever occur. Chronic inflammation of the eyes, accompanied by opacity of the cornea, is of frequent occurrence; as are also asthma, diarrhœa, cutaneous eruptions, and ulcers. Paralysis and mania are frequent; gonorrhœa is met with, but few cases of recent syphilis. The mumps spread extensively during the summer of 1839; in some cases, owing to want of care and exposure, it was severe, but was more generally mild.

In this district, the Reverend Mr. Thurston has been settled as missionary since the year 1823, and is assisted by Dr. Seth Andrews, to whom I feel much indebted for useful information.

Mr. Rich found but few plants among the decomposed scoria; among them he notices Copaiva, Plumbago zeylanica, Boerhaavia, several Convolvuli and Sidas, with a few grasses and some lichens. Copaiva and Plumbago, are two of the most powerful remedies in the native materia medica. The Sidas are used for making liis for the women.

The ground has the appearance of having been once more extensively cultivated than it is at present. The trees were Artocarpus, Aleurites, Eugenia, and Broussonetia, all of which furnish both food and clothing, and have been brought here at some former time from other regions.

On Monday, our gentlemen formed themselves into two parties, and started on horseback for their journey. One party consisted of Messrs. Peale, Rich, and Hall, with eight Kanakas and two guides; Mr. Dana and Midshipman Hudson, with Kanakas and guides, formed the other, which took the route along the sea-shore towards the south, well provided with provisions, and a supply of various articles for their journey; Mrs. Forbes, with great kindness, having added many things for their comfort, which they duly appreciated.

On their way from the coast, they in a short time came to a very fertile district, with luxuriant sugar-cane, taro, &c., and good houses. The taro here is cultivated without water; but in order to retain the moisture and protect the plant from the sun, it was observed that they used fern-leaves to secure and shield the roots. The taro, thus cultivated, attains a much larger size and is superior to that which is grown in water, being more dry and mealy. The houses of this district are much better also, although the natives, for the most part, reside at the sea-shore, to enjoy fishing and bathing.

In their day's jaunt they passed some wooded land, the trees of which consisted of koa (Acacia), Edwardsia chrysophylla (which is used for fuel), Dodonæa, &c. Plants of wild raspberry and strawberry were seen,—the fruits of both now out of season; the former, however, yet showed some of its blossoms, like small roses. The most remarkable plant was a species of dock, with large clusters of crimson flowers, which runs up the branches of dead trees to the height of twenty or thirty feet. These woods abounded with birds, several of which Mr. Peale shot; among them a crow, called by the natives Alala, and a muscicapa called Elepaio,—formerly worshipped as the god of canoe-makers. Before reaching their camping-place, they stopped to fill their calabashes with water, as they did not expect to find any of that necessary article for the next few days. On the edge of the last timber, at the elevation of two thousand feet, they encamped. Here they found excellent pasture for their horses among the ferns, a great abundance of which had been met with on both sides of the path, and were from four to five feet in height.

At night, the temperature fell to 48°, which was thirty degrees less than they had left it on the coast; and it was cold enough to sleep under two blankets.

The next day they arose at sunrise, when Mr. Hall and the natives, as they did regularly every morning during the journey, prayed and sang a hymn, before setting out. They soon passed beyond the woods, and entered a country of barren appearance, composed of hard solid lavas, in the crevices of which were found several shrubby Geraniums, Vacciniums, Daphnes, numerous Compositæ of a stiff rigid character, and some small ohea bushes,—a kind of sweet whortleberry.

On their route, many deep caverns were observed under the lava. The signs of wild cattle and dogs were frequent: the latter seek shelter in these caves. The cattle are now rapidly on the increase, there being a prohibition against killing them until a certain number of years have passed.

After a day's travel, they reached the site of the ancient temple of Kaili. These ruins lie about equally distant from three mountains, Mauna

Kea, Mauna Loa, and Hualalai. This temple is said to have been built by Umi, who, with his wife Papa, is supposed to have inhabited it, when he was king of the island. The three northern pyramids forming the front were originally erected by Umi, to represent the districts of the island he then governed; and as he conquered other districts, he obliged each of them to build a pyramid on the side of the temple.

This temple is represented in the adjoining plate. The main building A, is ninety-two feet long, by seventy-one feet ten inches wide; the walls are six feet nine inches high, seven feet thick at the top, and nearly perpendicular; the partition walls are three feet high: B and C are said to have been pedestals for idols; D, E, and F, are the pyramids built by Umi, eighteen feet high; G is the residence of Kaili's wife, Papa, also built by Umi.

The five remaining pyramids, H, I, J, K, L, are those erected by the conquered districts. All these are built of compact blocks of lava, laid without cement.

The building is said to have formerly been covered with idols, and offerings were required to be brought from a great distance, consisting generally of provisions. There are now no traces left of these idols. The situation of the temple is at an elevation of five thousand feet above the sea.

They proceeded a few miles beyond this point with their horses, but found the ground, consisting of broken lava and scoria, too rough for them. They therefore put them in charge of three little boys, to take them back to Kealakeakua Bay.

Mr. Peale shot two of the mountain geese peculiar to this part of the island; they are remarkably fine birds, and live entirely upon berries. In their route this day they passed several caves, which the natives were said to have inhabited while collecting sandalwood on the mountains for the chiefs. The walking now became extremely fatiguing, over vast piles of scoria, thrown up in loose heaps. There was no vegetation except a few small trees of Metrosideros, scattered here and there, and whortleberries. The heaps of scoria were to appearance like those from some huge foundry.

On the 18th, they resumed their journey at an early hour, passing in a direction towards Mauna Kea, over many rough ridges of the old lava streams, that were found from a quarter of a mile to a mile in width. One in particular, that pursued a northwest direction, their guides informed them was forty miles in length, and had flowed down towards the centre of the island. It had not a particle of vegetation on it; not even a lichen was to be seen. The lava of this stream is broken up into pieces of all sorts of shapes and sizes, weighing from a pound to many tons. Mr. Peale remarks, that the whole mass looked so fresh, that it appeared as though it ought to burn the feet of the passing traveller—and yet this eruption took place anterior to native tradition.

One of the native guides, Kimo, gave out here from fatigue, and after sharing his load they left him to follow.

They next passed two old craters covered with bushes and grass, at whose base was a fresh-looking stream of glassy lava. The first crater was in many respects like an old stone quarry, though on a gigantic scale: the rocks were broken up, and thrown about in great confusion; one side of the wall appeared as though it had been blown out, and strewed on the plain beneath; the sides that were left were nearly perpendicular, and presented distinct layers. Many plants were growing in the crevices.

The second crater was of a regular conical shape, both within and without, the interior being an inverted cone. Although the interior presented this great regularity, yet its sides were apparently composed of large blocks of lava, thrown out from its bottom, and lodged on its sides one above the other.

They encamped at the foot of a very old crater, now covered with trees of Edwardsia and Acacia, where they found water. The natives sought out one of the lava caves, as a protection against the cold and misty wind. Kimo again joined them at dark.

Although the next day they had fine weather and clear sunshine, yet they could see the rain falling from the clouds on the route before them. This rain they experienced shortly afterwards, and were obliged to travel through a driving mist all day, with a very chilly atmosphere. The natives complained so much of cold, that the party were induced to stop, light a fire, and give them some provisions, which had now become rather scarce. Seeing abundant signs of wild cattle, and hearing the sound of a distant gun, one of the guides went off to the haunts of the cattle-hunters in the neighbourhood, and shortly after returned with a supply of jerked beef.

Their route lay next through some very good grazing ground; and large herds of cattle find subsistence here, which are killed for the hides. Bones were lying in all directions. There is also some very good arable land, covered with large grass.

This part of the island would make valuable grazing farms, for there is a sufficiency of soil to support them, and wood to build with, though scarcely enough of the latter article for fuel. The loose scoria would make excellent fences, as the cattle can with difficulty be driven over it. The distance from the coast and the want of roads, however, would interpose many obstacles to its settlement; and the climate, so unlike what the natives are accustomed to on the coast, would probably prevent their services from being obtained.

The next morning they perceived that the tops of both Mauna Kea and Mauna Loa were covered with snow, which, however, disappeared by ten o'clock. They now took a southerly course, crossing over many ancient beds of lava much decomposed, and now covered with vegetation. The trees were the koa (Acacia), Edwardsia, and Dodonæa. They now first met the curious Compositæ mentioned by Douglass, and named by Dr. Hooker, Argyrophyton Douglassii; it was seen about eight feet in height, covered with a silver pubescence, which gives it a beautiful appearance. They found many pools of water in the lava. They had crossed over the flank of Mauna Loa, and supposed themselves to be about two-thirds of the way up towards its summit.

The temperature at night fell to 40°.

The beautiful columnar cloud of the volcano of Kilauea, which is always seen to hang over the crater, both by day and by night, was now in full view.

The next day they were on their route early, and passed some rich grazing country, with the grass full four feet high. From all appearances, these parts are not visited by cattle. There were many trees of koa (Acacia), Edwardsia, &c., as before. A fog coming on, they lost their way, and were obliged to retrace their steps. Our gentlemen, having their pocket-compasses, now took the lead, to the no small astonishment of their guides, that they could, in a thick fog, direct the way through places they had never visited before. Kimo, their Oahu guide, again gave out, and was left to follow; and as he did not come up as soon as he was expected, the guides and natives set out, in a praiseworthy manner, to hunt him up, although they were all more or less lamed by crossing over the rough lava during the day. They soon succeeded in finding him, and returned to the camp.

On the 22d, they reached the volcano, and considered themselves amply repaid for the rough travelling they had gone through for six days previously. As I shall have occasion to speak more fully of this portion of the island, with its many craters and its volcanic action, I shall defer the account of it for the present.

Our gentlemen now set out for Hilo, where they arrived the day after, having travelled a distance of one hundred and fifty miles. Here they again embarked on board the Flying-Fish, which sailed for Oahu, and reached Honolulu on the 28th of November.

The squadron was now on the eve of sailing, having on board stores and provisions for a long cruise. As this winter's cruising was particularly intended to examine the portion of ocean that was not included in my instructions, I shall, before narrating the details of the proceedings of the squadron, give, in a general view, the intended operations.

The movements of the squadron were, at this time, particularly directed to the examination of parts of the ocean possessing great interest in their connexion with that important branch of national industry, the whale-fishery; and the course I proposed to adopt will be understood from the following statement of the objects I now had in view.

The Porpoise, as before remarked, had been sent towards the Paumotu Group, or Dangerous Archipelago, lying to the eastward of Tahiti, to examine some islands that were reported as doubtful, and others whose positions were not well ascertained. She was also to leave a party on one of them, to bore through the coral rock, the Expedition having been provided with an apparatus for that purpose. Thence she was to proceed to Tahiti, and from Tahiti towards Penrhyn and Flint's Island; and return to Oahu by the end of March, 1841. The Porpoise sailed, as has been stated, on the 16th of November, 1840.

The Peacock, with the Flying-Fish as tender, I designed should visit and examine the location of several of the doubtful islands, passing along, the magnetic equator westward from the meridian of 160° W.; thence to a small group of islands in longitude 174° W., which I had partly examined in the Vincennes, and had found some new islands among them; these I had called the Phœnix Group. Thence the Peacock was to proceed to search for the Gente Hermosas of Quiros, or the islands reported to me at Upolu, when I was there in 1839, as existing to the northeast; thence to Upolu, to re-survey the south side of the island, not having been able to satisfy myself with the former survey of it; at the same time directing Captain Hudson to inquire into the late murder of an American seaman, of which I had received information from our consul, Mr. Williams.

Lieutenant-Commandant Ringgold had, as before stated, made a demand for the murderer, but the chiefs had refused to comply with the treaty. The circumstances of the murder of Gideon Smith, as given by affidavits made before the consul, (which will be found in Appendix XX., Vol. III.,) are as follows.

Gideon Smith was a native of Bath, Massachusetts. He belonged to the whale-ship Harold, of Dorchester, Massachusetts, but left her on touching at the island of Upolu, about the 1st of May, and went to live with a chief, Palasi by name, in the village of Fatua. Here he took a wife, belonging to this chief's family. It appears, that after a few weeks the family did not use him well, and were desirous of getting rid of him, but wished to retain a monkey-jacket belonging to him. For this purpose they got possession of the jacket, and took his wife away from him. After the third night, it appears that Smith left the house, taking with him three axes, five fathoms of cloth, a shawl, and tapa, in payment for his jacket, or until it should be given up to him. The next day, it appears that Palasi and his wife came in search of Smith; and, on hearing that the articles were in possession of one of his acquaintances by the name of Maitland, they told him to keep the articles, for all that they wanted was their white man. Smith refused to return, and said that all he desired was his jacket, which was soon after brought, and then the articles were returned. Smith was advised not to walk about, or leave the village after dark, until the chief's anger was over: but he appears not to have heeded this advice, having gone to Murivai, part of the town of Saluafata, and after dark went out, for the purpose of going to a house about three hundred yards distant. The moon was full, and it was quite light. About half an hour after he set out, a native inquired for Smith, and said that he had stepped in something that was in the path, which was not water, but felt like blood. The alarm was immediately given, and, on search being made, the body of Smith was found, with a cut on the right side of the neck, which had nearly severed the head from the body, another on the left side, a deep wound with an axe on the breast, and one on the head.

Suspicion at once rested upon Vave, alias Tagi, Palasi's brother, who was heard inquiring for Smith, having an axe in his hand at the time. This man was examined before the consul, and when asked if he had murdered the white man, said "Yes." On being asked the reason, he said, "Because his heart was pained with his theft." Being further questioned, as to the circumstances, he said, "That when Smith first landed, he came to him with another white man, to procure a wife, offering an American axe and jacket as a reward or purchase for her. After a few days Smith wished to change his lodgings, and live with another man by the name of Maitland, taking his wife with him. The day after, a report reached the family that the girl had cried all night, and that Smith had hurt her. They returned and lived a short time together at her house, after which Smith again left it, with the articles. These, Tagi said, had been all returned except a siapo belonging to the girl. The failure to return the latter caused them to be very angry, and he took up an axe to go in search of

Smith, with an intent to kill him. On meeting Smith, he asked him for the siapo, which he denied having, upon which he killed him with the axe."

From other evidence, it fully appeared that all the family of Palasi were cognizant of the fact; and the chiefs having refused to give him up, or try him for murder, it became necessary to show these islanders that they could not commit such acts with impunity. Captain Hudson was, therefore, instructed to inquire into the facts, and take such measures as would secure our citizens from molestation in future, and cause the islanders to respect their own regulations.

From the Samoan Group the Peacock was to proceed to examine and survey Elliee's Group; thence north to the Kingsmill Group, and passing through the Rurick Chain, visit the Pescadores, to ascertain, if possible, any circumstances that would throw light on the fate of a Captain Dowsett, who it was supposed might have been detained in captivity by the natives. The following particulars from his wife were furnished me by Mr. Brinsmade, the American consul at Oahu: they are all that is known of his fate.

The schooner Victoria was in charge of Captain Dowsett, and went to the Pescadores, on a shelling voyage; there he landed with several of the crew, and among them a boy named Brown. Some difficulty occurred on shore, and the captain and such of the crew as were with him were set upon, and were not seen afterwards. The boy escaped. The survivors describe the people as a fishing party, unarmed and unwarlike, with no other weapons but sticks and pieces of iron hoops purchased from the schooner. They had neither clubs nor spears. A report afterwards reached Oahu, that a canoe had been picked up with some natives, who reported that Captain Dowsett and his men were alive; that one of them was named Sam, (the Christian name of Captain Dowsett,) and another George, (the name of a New Zealander.) Mr. H. A. Pierce, a merchant of Honolulu, in consequence, despatched the schooner Waverley in search of them. This vessel has never been heard of, but reports reached Honolulu, that Captain Scott, had succeeded in getting the chief on board, and had recognised several articles belonging to Captain Dowsett, which his wife had sent him. Some misunderstanding occurring between the master of the Waverley and the chief, the former cut off the beard of the latter and sent him on shore.

The cause of the difficulty that occurred between Mr. Dowsett and the natives is unknown. The boy, Brown, was at a distance from the party when it took place, and did not see Mr. Dowsett. Dowsett and the chief had been previously on the most friendly terms, and had exchanged tokens of friendship. I was desirous of clearing up the mystery that hung over their fate, and also that of the Waverley, and directed the Peacock to visit, for this purpose, Strong's and Ascension Islands, after leaving the Pescadores.

The facts known concerning the Waverley are very few, but they lead to the belief that she lies a wreck on Strong's Island. The schooner Honduras, Captain Scott, went to Strong's Island under the impression that the natives were very peaceable and friendly, intending to overhaul the vessel there, in the east bay. At noon on the 23d of August, 1835, he arrived off the island. No canoes came alongside, a circumstance which excited the suspicion of several of the crew that had formerly resided there, for they knew that it was customary for some of the natives to board a vessel as soon as she neared the island. They told their fears to the captain; but canoes arriving shortly after with presents of bread-fruit, he manifested some displeasure that the crew should have had any doubts on the subject, and calling to one of them who formerly had lived there, told him to ask the natives where all the white men were. They readily answered, "On the other side of the island," which at once quieted the captain's suspicions, though it appeared to confirm those of some of the crew who knew them better. The captain, however, ordered the boat to be hoisted out, and gave as many of the crew as chose, permission to go on shore. Two of them went immediately, and then the captain and six others. Shortly after, the natives began to throng on board. In about half an hour, those remaining on board heard the captain call for help, which was the last they knew respecting him.

On seeing that the attack had begun on shore, the natives on board instantly attacked the seven men remaining in the vessel. The mate and another man rushed below, and having armed themselves with muskets, they again reached the deck: the natives who had possession of it, seeing the fire-arms, immediately jumped overboard. An American, named Webber, and a Malay, were found lying dead; the other three had disappeared. The natives now discovering that the muskets were out of order, endeavoured again to get on board, but were kept off until the swivels were loaded, when they all swam for the shore. These two men at once slipped the cable, and got the vessel under way. When beating out of the harbour, a cannon was fired at them several times, with so well-directed an aim, that the shot passed close to the vessel. This gun was believed to be a six-pounder, belonging to the Waverley; and it is thought that that vessel was captured, and is now lying a wreck there.

The Honduras put away for Ascension Island, where she arrived in ten days, and was taken possession of by Mr. Dudoit, the part owner, who obtained another crew; she then returned to Strong's Island, and cruised off and on for a month, but nothing was seen after the first day, when two boats and a canoe approached the vessel. One of the boats was recognised as that belonging to the Honduras, in which the captain had gone on shore; the other was thought to belong to the Waverley, but the boats did not come near enough to permit them, or the persons in them, to be distinguished: they were, however, clothed. Guns fired at them when they were entirely out of reach, caused them to return. Masts, supposed to have been those of a vessel, were seen over the land.

A rumour reached Tahiti, a year afterwards, that both Captain Cathcart, of the Waverley, and Captain Scott, were living at Strong's Island, and that the hull of the Waverley was lying rotting in a creek on the west side of the island.

In looking into all the facts of these cases, it seems that there may have been some cause for the great change that took place in the conduct of the natives of these islands, in the course pursued by the whites. It appears by testimony in my possession, that Mr. Dudoit had confined and taken away two men against their will, on a former visit. We have also seen that Captain Cathcart, of the Waverley, had maltreated a chief, by cutting off his beard: this act was sufficient to incense the whole people, and to cause the capture and massacre of all the whites within reach; for it is an indignity that no natives of the South Seas would submit to. It seems very probable that the whites could have become so ascendant on the island, in so short a time as elapsed between the two visits of the Honduras; but it is not at all surprising that the natives should have visited Mr. Dudoit's sins upon the head of his captain.

There was an impression at Oahu, that white men must have had some agency in the business, from the manner in which the guns were directed and fired. If a massacre took place on board the Waverley, it is not improbable that two or three might have been spared, held in subjection by the natives, and forced to perform this service. The presence and action of whites may have arisen from runaways from vessels, for we have had ample proof that throughout the Pacific isles there are dissolute characters, who would be as prone as any savage to deeds of piracy or blood, if they themselves were to derive any benefit from it.

Whatever were the true state of things, I felt well satisfied that it was desirable for some part of our force to visit this island; both it and Ascension were therefore included in the orders of Captain Hudson. The latter is at present the limit of the whale-fishery within the tropics to the west. I was desirous also of obtaining a knowledge of the supplies it afforded for recruiting whale-ships, as well as making an examination of some interesting monuments of the natives said to exist there.

The Peacock and tender were ordered from these islands to proceed to the Northwest Coast of America, to rendezvous with the rest of the squadron at the Columbia river, in the latter end of April.

This cruise included the middle as well as the extreme western part of the cruising-ground of our whale-ships. How far these intentions were accomplished, will be seen when I come to treat of her operations. Captain Hudson's instructions will be found in Appendix VIII.

The eastern section of this belt it was my intention to explore with the Vincennes, after having visited and examined the volcanoes of Hawaii, and made the pendulum observations on the top of Mauna Loa. The unforeseen difficulties which occurred to prevent my carrying out this plan will appear in the following chapters.

The Peacock and tender sailed on the afternoon of the 2d of December, 1840. The tender, in leaving the harbour, took the ground, and was detained several hours. Captain Hudson sent one of his boats to her aid, and informed Mr. Knox that he would steer off on a certain course, directing him to follow this after dark; I was, therefore, not a little surprised the next morning to find the Peacock in sight, standing in, having missed the Flying-Fish in the night: we telegraphed that the tender had sailed the evening before, and the Peacock again stood off. We shortly after saw them join company, and bear away on their route.

CALABASHES.

# CHAPTER IV.

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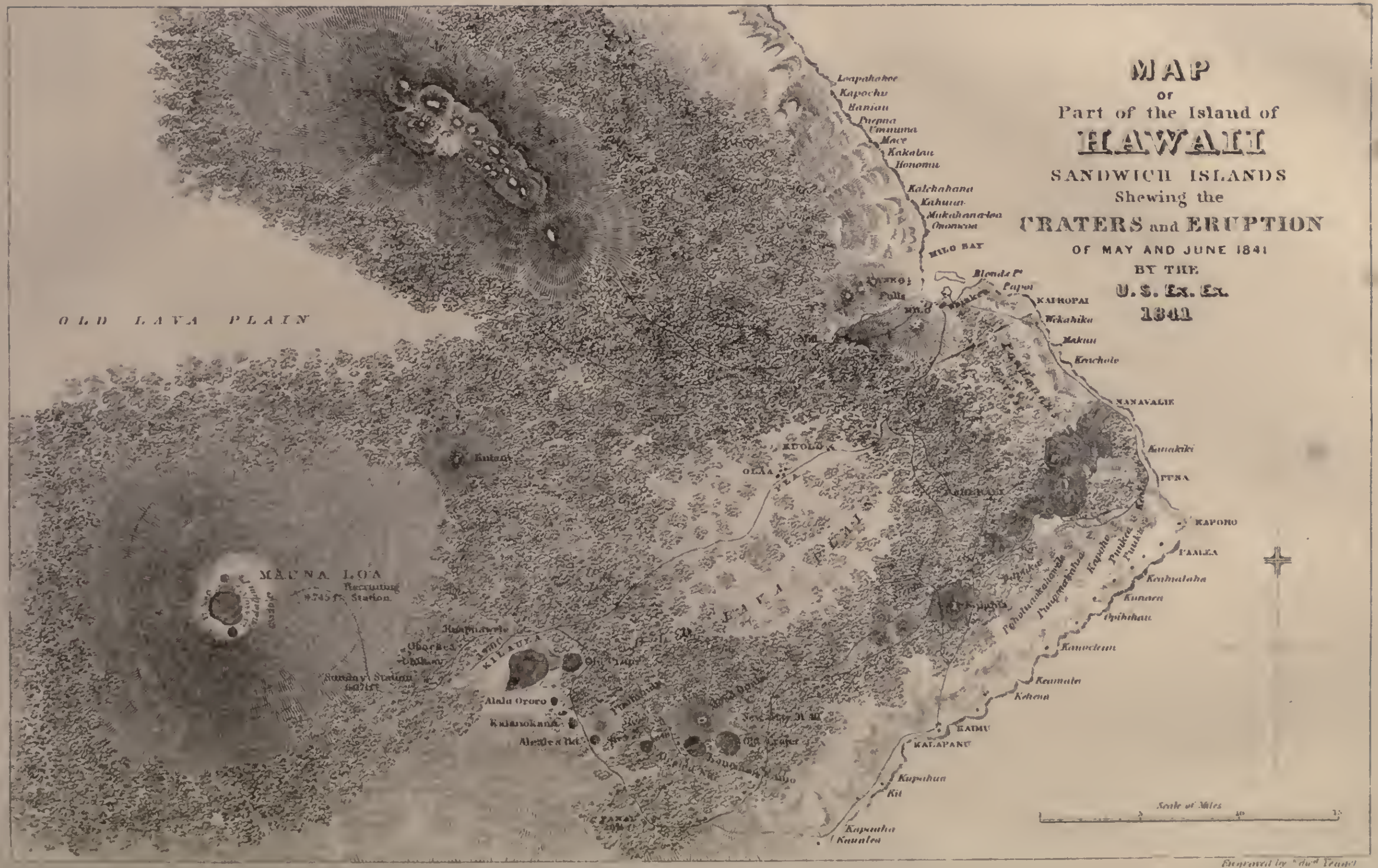

MAP
OF
Part of the Island of
HAWAII
SANDWICH ISLANDS
Shewing the
CRATERS and ERUPTION
OF MAY AND JUNE 1841
BY THE
U. S. Ex. Ex.
1841

Engraved by Edwd Yeager

# CHAPTER IV.

## MAUNA LOA.

### 1840.

In the Vincennes we were all ready at an early hour on the 3d of December, excepting the pilot, Adams, who was not to be found. He finally came on board, when, from his actions, I concluded that he was intoxicated, and told him so; this it seems he took in high dudgeon. After I had gone on shore to transact some business, he became very noisy and abusive to the first-lieutenant, who very properly told him to leave the ship. Finding that he was not to be depended upon, I determined to take the ship to sea myself, and for this purpose stationed boats to act as buoys on the narrowest part of the bar. Shortly after this was done, a fresh breeze sprung up, we cast off, and in a few minutes were safely outside.

I was led, by this circumstance, to lay a complaint before the king against the employment of a drunken pilot, and was in hopes that Adams would, in consequence, have been dismissed, and a competent person appointed in his stead. But through misrepresentations made to the king, no new appointment was made. Mr. Reynolds acts in old Adams's place when he is drunk, and the result, as I have been credibly informed, is, that more than one half of the ships, going in or coming out, get on shore. Some instances of the sort occurred during my stay, among which was the case of the ship Morea. I urged the dismissal of Adams, on the ground that if he were not removed, the price of insurance of vessels bound to the port of Honolulu would be affected, and that, besides, the interest of the owners would suffer by their detention from his inability to take the vessels to sea. The correspondence that passed on this subject will be found in Appendix IX.

Having got safely out of the harbour, we hove-to for the boats; when they joined us they were hoisted up, and we made sail with a fine fresh trade-wind.

I had the pleasure of being accompanied by Mr. Brinsmade, our worthy consul, and my friend Dr. G. P. Judd, both of whom volunteered to accompany me in the novel and arduous enterprise I was about to undertake. The former hoped to improve his health, which had suffered from long confinement in the warm zone of the islands, by the invigorating mountain air; the latter was desirous to share our troubles and fatigues, and undertook to act as our physician, interpreter, adviser, and manager of the natives. To him the Expedition is much indebted for his exertions and enthusiasm. Besides this, I feel personally under great obligations, and take pleasure in making my acknowledgments here for his hospitality, and the kindness received from himself and family while at Honolulu, and for the information I derived from him relative to the islands. We had, also, with us as interpreters, several graduates of the high-school at Lahaina, whom I thought necessary in the management of the natives we were about to employ.

Believing that we should be much more likely to obtain favourable winds to the northward, I determined to pass between the islands of Molokai and Oahu.

We now began to find that our new men, the Kanakas, required much attention; many of them were sea-sick, and, true to their former habits, it was difficult to arouse or induce them to exert themselves. They began to recover in a few days; but though well-disposed men, they are unfitted for service in men-of-war. They do very well when they are working in small parties, but are inclined to be idle, and disposed to let others do all the work. It is, also, extremely difficult to infuse into them a proper degree of attention to personal cleanliness. To judge of those we had on board the Vincennes, they are not apt at learning either the language or the ideas necessary for sailors. The greater portion of them were found very timid, and they did not like to venture aloft. The only place in which we found them useful was in boats, for they were more in their element while in the water than out of it. One or two serious accidents, however, were near occurring to the officers in boats, while passing through the reefs, from the desire of the Kanakas to avoid danger by jumping overboard, and taking to swimming, thus leaving the boat exposed in perilous situations. On the whole, I was disappointed with them, and would prefer to go weak-handed rather than again resort to such aid, although I must do them the justice to say they were extremely willing, and when pulling at an oar, serviceable enough. They suit the whale-ships, I am told, admirably, working steadily and well, and are fearless in the chase. They are at all times well disposed to do what they are shown or understand; but, as I before said, their capacity is very limited. Their Hawaiian names were too difficult for the sailors to adopt, and they very soon had others given them, that arose from personal peculiarities, or from some whim of the sailors with whom they messed; and they were consequently seldom called by their real names, except at muster.

During our progress to Waiakea, or Hilo Bay, we had light variable winds, with heavy dews at night. On the 8th we made Mauna Kea, then about fifty miles distant, subtending an angle of two degrees: it was capped with snow. As we approached the island, we had, also, a view of Mauna Loa, with the cloud resting over the volcano of Kilauea, the scene of our future adventures.

The next morning we found ourselves close in with the land, and at eleven o'clock received a pilot on board, John Ely, who proved to be an old shipmate of mine in the Guerriere frigate in 1820; but we had both lost the recollection of each other: I had grown into manhood, and he had been dwelling, as he said, among the ignorant savages of the Pacific.

For three or four hours we had baffling winds; but after 3 P. M. the sea-breeze came up and wafted us into the bay, which we reached at half-past four, and dropped our anchor in five and a half fathoms, with muddy bottom.

This bay is little protected from the sea, and is almost an open roadstead. It has, however, an extensive sunken coral reef to seaward, which is too shoal to allow of the passage of vessels over, and affords some protection against the rolling sea; a vessel therefore usually lies quiet, unless it is blowing strong outside. There is no danger in entering the bay; all that is required is to avoid the west point of the reef, and on passing it to haul to the southward. We found the best anchorage on the east side of the bay, where Cocoa-nut Island and the most eastern point are in range.

In sailing towards Hilo Bay, Hawaii has but few of the characters that indicate a volcanic origin. In this respect it resembles Savaii, in the Samoan Group; and the resemblance has been the cause of what is in fact the same name having been given to both. The two words differ no more in spelling and sound, than has arisen from the long separation of two families of the same race and language. Many of the points and headlands present a like similarity in name, and strengthen the conviction of the common origin of the inhabitants of the two groups.*

To one unacquainted with the great height of the mountains of Hawaii, this island might appear of comparatively small elevation, for its surface rises gradually from the sea, uniform and unbroken; no abrupt spurs or angular peaks are to be seen, and the whole is apparently clothed with a luxuriant vegetation.

The scene which the island presents as viewed from the anchorage in Hilo Bay, is both novel and splendid: the shores are studded with extensive groves of cocoa-nut and bread-fruit trees, interspersed with plantations of sugar-cane; through these, numerous streams are seen hurrying to the ocean; to this succeeds a belt of some miles in width, free from woods, but clothed in verdure; beyond is a wider belt of forest, whose trees, as they rise higher and higher from the sea, change their characters from the vegetation of the tropics to that of polar regions; and above all tower the snow-capped summits of the mountains.

From this point of view, Mauna Kea, distant about thirty-five miles, has the appearance of being by much the highest mountain on the island; while Mauna Loa, distant sixty miles, and rounded at its summit to the shape of a regular dome, requires an effort of reason to satisfy the observer that it really has as great an elevation. A conviction that this is the case may be reached by tracing with the eye the edge of the forest that encircles both mountains, and noting how large a portion of the dome of Mauna Loa rises above the woody region.

No snow was visible to the naked eye on Mauna Loa, but with a telescope it was seen scattered here and there on its rounded summit. The appearance of this mountain is so deceptive, that one would not suppose it to have half its real altitude; and it might easily be passed unnoticed, so unpretending is its aspect. From Hilo, Mauna Loa looks as if one might walk over its smooth surface without difficulty; there is, indeed, so much optical deception in respect to this mountain, that it served to give us all great encouragement, and we set about making our preparations with a determination to succeed in the attempt to reach its highest summit. The position of the crater of Kilauea was denoted by the silvery cloud which hangs over it by day; which, as evening closed in, was, by the glare of the fires burning beneath, made visible throughout the night.

My time was now actively employed in establishing the observatory at Waiakea Point, for rating the chronometers, and in arranging the instruments to carry on simultaneous observations with our mountain party. I had also a house built after the native fashion, in order that some of the officers might be engaged upon the charts.

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* This subject will form a part of the report of Mr. Hale, the Philologist to the Expedition, to which I refer for a full investigation of it, and of its bearing upon the migrations of the Polynesian tribes.

Waiakea Point is situated on the opposite side of the bay from Hilo. The distance between them is a little more than a mile, and the path leads along a sandy beach, on which the surf continually breaks, and at times with great violence.

Hilo is a straggling village, and is rendered almost invisible by the luxuriant growth of the sugar-cane, which the natives plant around their houses. A good road has been made through it for the extent of a mile, at one end of which the mission establishment is situated. This consists of several houses, most of which are of modern style, covered with zinc and shingles. One of them, however, the residence of the Rev. Mr. Coan, was very differently built, and derived importance in our eyes, from its recalling the associations of home. It was an old-fashioned, prim, red Yankee house, with white sills and casements, and double rows of small windows. No one could mistake the birthplace of the architect, and although thirty degrees nearer the equator than the climate whence its model was drawn, I could not but think it as well adapted to its new as to its original station.

The whole settlement forms a pretty cluster; the paths and road-sides are planted with pine-apples; the soil is deep and fertile, and through an excess of moisture, yields a rank vegetation.

The church is of mammoth dimensions, and will, it is said, accommodate as many as seven thousand persons. It is now rapidly falling into decay, and another is in progress of erection. Many of the native houses are surrounded with bread-fruit and cocoa-nut trees, and have a fine view of the bay.

During our passage from Oahu, it was arranged that each of the natives employed by us should be designated by a tin disk, in order to keep them in some sort of order or discipline. These were painted of different colours, so that the wearers might be known to us and mustered, without having recourse to their names or asking any questions. It was intended to divide them into companies of fifty, with a petty chief and one of our interpreters to each. Dr. Judd very kindly arranged all the preliminaries with Pea, the king's agent for the district of Hilo, and the keeper of his fish-ponds, whom his majesty Kamehameha had authorized to employ people for our service. The natives had consequently been ordered to assemble and assist us as we might require. The king had likewise ordered a large number of hogs to be collected as a present, and Pea was further instructed to make a provision of taro, poe, &c.

In consequence of these arrangements, the natives assembled, and were divided into companies; the terms of their employment were agreed on, for taking loads to the mountain and bringing them back; their names and numbers were all entered in a book by the scribes, as we termed the interpreters, or Lahaina scholars. At the head of these scribes was one Kalumo, a young man of great intelligence, but somewhat, as we soon found, inclined to dissipation.

The articles of every description were now arranged in loads, some for one native, others for two, and a few of the heavy and large ones for four. Each of these loads had a number attached to it; and they were, previous to the day of departure, arranged in proper order. The time fixed for setting out was Monday, the 14th of December.

Beside about two hundred natives, the party consisted of Lieutenant Budd, Passed Midshipman Eld, Midshipman Elliott, Mr. Brinsmade, Dr. Pickering, Mr. Brackenridge, Dr. Judd, myself, and ten men, including our servants from the ship. This was a large party; but when it is considered, that besides our instruments, tents, &c., provisions were to be carried, it will not be considered so disproportionate, especially as it generally requires one-third of the number, if not more, to carry provisions for the rest.

Having arranged every thing with Lieutenant Carr, who was left in charge of the ship, for the duties to be performed by him, I set out, at an early hour, to join the host at the Point. Here I found every thing in confusion; our chief scribe, Kalumo, who had the books containing the lists, was missing, and there was an uproar resembling that of Bedlam. Having very willingly committed all the arrangements, as well as the management of the natives, to Dr. Judd, I had nothing to do but to look on.

In consequence of the absence of Kalumo, the natives had an opportunity of trying the weight of some of the bundles, and before he was forthcoming, many of the lightest loads had very adroitly been carried off. No person who has not seen a large collection of South Sea natives, can imagine the noise and confusion that prevailed. Many natives belonging to Kanuha's district had not been engaged, and were of course on the spot, to look on, talk, and dispute.

In consequence of the conduct of Kalumo, it was soon found that there would be many loads for which we had no bearers, and these were, of course, all those of bulk and weight; but how to remedy this state of things was beyond our power to conceive. To stop those who had gone on, and oblige them to return, was impossible. Several hours in the day had already been employed in making up the loads, and the day was fast wearing away; for two o'clock had now arrived.

Recourse was therefore had to Kanuha, the chief of Hilo, who had the name of being a great extortioner. He came, and as he well understood our situation, showed his modesty in asking only twice as much as had been promised to those who had gone before. There was, however, no remedy, and the bargain was made; but it was some consolation that the loads his people took were twice as heavy as those the others bore.

It was amusing to see how this chief operated with his people. Numbers of bearers were soon obtained, and the loads sent off without any further difficulty. The character of Kanuha for energy had not been acquired without some reason, and his authority over those belonging to his district was fully evident. I was delighted when I saw the last package off, and the whole of the bearers winding their way on the road for the mountain. The officers who had been assigned to the different detachments, received orders not to suffer any to stray from the path.

At a short distance from Waiakea, we passed the royal fish-ponds, from which, during our stay at Hilo, by order of the king, my table was constantly supplied with the fine fresh-water mullet that had been taken from the sea when small, as before described. I have frequently had an opportunity of tasting both kinds at the same meal; and I was not quite so well convinced of the superiority of the fresh over the salt-water fish as the natives appear to be. The difference, however, may be much greater when they are eaten raw, which is the favourite mode of the natives, and which I had not curiosity sufficient to induce me to attempt.

In and around these ponds is a very fine species of duck, of which we obtained many. The natives have a mode of catching them which is ingenious: a string is tied to a small stick two or three inches in length, and the other end to a stone of two or three pounds weight, which lies on the bottom of the pond. The stick, which floats on the surface, is baited with a small fish, which the duck pounces upon, and swallows: in attempting to fly away, the stick is crossed in the throat, so that the duck, who is unable to carry off the stone, is secured.

In two hours, we had travelled about five miles, and had ascended five hundred feet. The road proved tolerably good, although it scarcely admitted two persons to walk abreast.

We passed the hill, described by Lord Byron's party, which it would have been difficult to recognise had it not been pointed out, on account of its gradual rise. This hill afforded a magnificent view of Hilo Bay, and of the surrounding country below us.

Six miles from Hilo we entered the first wood, and at 6 P. M. we passed, at eight miles distance, the chasm that divides the Hilo from the Puna district. As the darkness set in, we began to experience the difficulties we had anticipated from our late start: the bustle and noise became every moment more audible along the whole line as the night advanced: what added not a little to our discomfort, was the bad road we now had to encounter, rendered worse as each native passed on in the tracks of those preceding him, until at last it became in places quite miry.

We continued on, however, until we found most of the natives had come to a stand, and were lying about among the grass by the roadside near a few grass-houses. One of these was hired for our accommodation and to protect us from the heavy dew, to which the natives seemed accustomed: here we proposed to stay until the moon arose, and in the interim to get what little rest we could.

After it became sufficiently light we again set out with a part of our host. The cloud of the volcano of Kilauea lay before us like a pillar of fire, to guide us on our way. We reached Olaa, the habitation of Pea, about half-past four.

Here we found Messrs. Waldron and Drayton, who had preceded us, taking their breakfast on a large round of *bœuf à la mode* and coffee, in which we all cheerfully joined. We concluded to stop here until eight o'clock, to allow time for the natives to cook their food and serve out the rations of poe.

It will scarcely be possible to form a full idea of our company: that of my Lord Byron is described as a sort of triumphal procession; ours was very different from this, and was more allied to a May-day morning in New York, or a vast caravan. It consisted, as my friend Dr. Judd informed me, of two hundred bearers of burdens, forty hogs, a bullock and bullock-hunter, fifty bearers of poe (native food), twenty-five with calabashes, of different sizes and shapes, from two feet to six inches in diameter. Some of the bearers had large and small panels of the portable house on their backs; others, frying-pans or kettles; and others, tents or knapsacks. Then there were lame horses, which, instead of carrying their riders, were led by them; besides a large number of hangers-on, in the shape of mothers, wives, and children, equalling in number the bearers, all grumbling and complaining of their loads; so that wherever and whenever we stopped, confusion and noise ensued. I felt happy in not understanding the language, and of course was deaf to their complaints. It was very evident that the loads were unequally divided; and I must do the natives the justice to say, they had reason to complain, not of us, but of each other. It was impossible for the thing to be remedied at once, although it was not a little provoking to see several natives staggering under their loads, while one or two would be skipping along with a few pounds' weight only. At first, many of them preferred the hog-driving business; but I understood that they afterwards found out that it was no sinecure to drive a hog either of large or small size, and still less so to have charge of the bullock, who was half wild. The terror and fright he produced among the natives, proved a source of much amusement to us; and some droll scenes took place as the natives rushed in all directions to get beyond the reach of his horns, throwing down their loads without regard to the consequences. This was, however, prevented afterwards, by sending on the bullock, with his *attachés* or drivers, in front.

I found Olaa to be one thousand one hundred and thirty-eight feet above the level of the sea; and the temperature there was 72°.

While we were getting a slight nap, Dr. Judd was engaged in superintending the distribution of food to the multitude, during which time much confusion and noise existed. The natives put me in mind of wild beasts in this respect; they seldom make any noise unless their appetite and ease are in some way concerned.

Among the party we had several white men as interpreters, besides our native guides, who formed as it were a connecting link between ourselves and the natives proper. The whole was in keeping, for all had set out for a hard and rough journey; and knowing we had an arduous task to perform, we were all appropriately clothed for work.

The dress of the natives consisted of the maro and a light piece of tapa-cloth, worn as a shawl, which, when working, was usually wrapped around their bodies. In order to protect the feet, they were each furnished with a pair of raw-hide sandals, which they tie on their feet as boys do their skates. These are put on so as to cover the palms of the feet. For want of hide, some made sandals of ti-leaves, which answer the purpose quite as well for a time, though they are not so durable, and walking in them causes an awkward gait.

The whole company was a sort of mob, each moving after his own fashion, and straggling occasionally out of the path to save a few yards of distance. The chief Pea and his body-guard brought up the rear, to pick up stragglers and assist the weary.

After leaving Olaa, we had no distinct path to follow; for the whole surface became a mass of lava, which retained all its metallic lustre, and appeared as if it had but just run over the ground—so small was the action of decomposition. There were only a few stunted bushes on our track; but some dense patches of wood were observed on the right. The day was warm, with a bright sun; and when we passed pools of water standing in the lava rock, as we frequently did, the natives would rush into them like overheated dogs, and seemed to enjoy the temporary coolness brought about by the evaporation.

The lava had a peculiar metallic appearance, and had evidently run over the surface in a melted state. The natives call this smooth kind pahoihoi, which is the same word they use for satin. This, after running smooth for some distance, would assume a wrinkled or wavy form, showing that the mass had been pressed forward, in cooling. The melted rocky stream, in places where the descent was rapid, appears to have been urged forward with some velocity, and as the surface cooled and became fixed, the melted matter has run out from beneath, leaving a kind of trench or tunnel, which, in some places, is of considerable size. The localities of the tunnels are pointed out by the hollow sound experienced in passing over them.

At 3 P. M., we reached Kapuauhi, which consists of a few houses, and is about fifteen miles from Olaa. The temperature, on our arrival, was found to be 80° in the shade, while in the sun it stood at 84°; the whole extent around was black lava; indeed there was no place where we could pitch a tent of six feet by eight, and as it looked like rain we concluded to occupy one of the houses that was offered to us; but it taught us a lesson we remembered for some time, for all our blankets and clothes became infested with fleas, and those of the most voracious kind.

Dr. Judd, finding that some of the natives were overloaded, sent back for a reserve of thirty men, to overtake us as soon as possible. Several of the packages were unwieldy, and others, though small, were much complained of; among the latter was a small iron mortar, or eprouvette, which I was taking up to try some experiments on sound, in the rarefied air: this had been a great pest to the natives, and they had made every endeavour to get rid of it. As there was some difficulty in getting our host awake, and ready for a move betimes, it was proposed that the mortar should be fired at early dawn: although small, yet with a well-adjusted plug driven into it, it made the noise of a great gun. It was accordingly fired the next morning to the wonder of all, and soon aroused the mob. Such was the effect this had upon the bearers of it, that no more complaints were uttered, and they joyfully shouldered their burden, having become men of great consequence in the eyes of their fellows, and subjects of the day's talk. Many now would have exchanged loads for the honour of being the bearers of it.

The height we had now attained was two thousand one hundred and eighty-four feet; the thermometer, 72°; the lowest temperature in the night, 58°. A slight shower of rain fell during the night.

At 8 A. M., we left Kapuauhi, or what our company called "Flea Hall," after having passed a most comfortless night. Nothing could be more annoying than the swarms of fleas that attacked us, and I believe all the native houses are thus unpleasantly infested. In about three hours we reached the Okea tree, known as the boundary of the territory of Pele, or the goddess of the volcano. In bygone days no native dared venture beyond it without an offering to Pele, under penalty of her vengeance. Many strange traditions are told of her, and of the combats she waged with the ancient warriors of the island, in which she destroyed whole armies by her "floods of fire." Dr. Judd and myself, while at the volcano, listened to one of these long traditions from a young man named Kiwe, a descendant of one of the "tradition bearers," who were employed specially to hand down the traditions in their family, and were thus the depositaries of the oral archives of the nation. Kiwe came from Panau, in the neighbourhood of this district of fire, and we were, of course, very desirous of obtaining any information he could give. As he had come to offer himself as guide, he was sent for to our hut, and was asked to take a seat. Kalumo, the chief scribe, before spoken of, was sent for, and began to question him relative to the traditions. Kiwe began by describing various great chiefs and their genealogies, but nothing relating to their feats or actions, except that the great chief of Papapala and the goddess Pele had quarrelled about a surf-board, which ended in his being consumed, after having attempted to cross the fiery lake upon it. Many interrogatories were put to him, but he soon became sullen and refused to answer; he told us he had discovered our intention, and that he knew we were going to put what he said in a book, that every body might read it, and therefore he would give us no further information. This I hope will be received as a sufficient apology for my not giving the histories and details of these marvellous personages; for, according to Kiwe, by relating them he would lose his occupation as soon as they were printed.

Soon after we left Kapuauhi, we met with soil formed upon the lava by volcanic ashes; the bushes became thicker and more thrifty, rising into small trees; quantities of strawberry-vines were perceived, but the natives searched in vain for some straggling fruit. The time for its bearing had passed, but they are said to be found in great abundance, and of very fine flavour, at the proper season. Okea was the principal wood, and there was some koa (Acacia). A curious plant was pointed out, the sap of which blisters the skin, and with which the inhabitants produce a sort of tattooing in large and small round lumps. I did not learn how durable they were. This plant is called mau-a-laili.

Our course, since we left our resting-place, was nearly south-south-west, and the inclination on which we ascended was not as rapid as it had been. The country on our left was one entire rock, while that to the right was still occupied by the line of forest I have before spoken of, which bounded our view to the west.

Just as we reached the great plain of the volcano, we approached the southern limit of the wood, and, on turning its corner, Mauna Loa burst upon us in all its grandeur. The day was extremely fine, the atmosphere pure and clear, except a few flying clouds, and this immense dome rose before us from a plain some twenty miles in breadth. I had not, until then, formed any adequate idea of its magnitude and height. The whole dome appeared of a bronze colour, and its uninterrupted smooth outline was relieved against the deep blue of a tropical sky. Masses of clouds were floating around it, throwing their shadows distinctly on its sides, to which they gave occasional relief and variety. There was a bluish haze resting on the plain, that apparently gave it great distance, though this was partially counteracted by the distinctiveness of the dome. I now, for the first time, felt the magnitude of the task I had undertaken.

So striking was the mountain, that I was surprised and disappointed when called upon by my friend, Dr. Judd, to look at the volcano; for I saw nothing before us but a huge pit, black, ill-looking, and totally different from what I had anticipated. There were no jets of fire, no eruptions of heated stones, no cones, nothing but a depression, that, in the midst of the vast plain by which it is surrounded, appeared small and insignificant.

At the further end was what appeared a small cherry-red spot, whence vapour was issuing, and condensing above into a cloud of silvery brightness. This cloud, however, was more glorious than any I had ever beheld, and the sight of it alone would have repaid for the trouble of coming thus far.

We hurried to the edge of the cavity, in order to get a view of its interior, and as we approached, vapour issuing from numerous cracks, showed that we were passing over ground beneath which fire was raging. The rushing of the wind past us was as if it were drawn inwards to support the combustion of some mighty conflagration.

When the edge is reached, the extent of the cavity becomes apparent, and its depth became sensible by comparison with the figures of some of our party who had already descended. The vastness thus made sensible, transfixes the mind with astonishment, and every instant the impression of grandeur and magnitude increases. To give an idea of its capacity, the city of New York might be placed within it, and when at its bottom would be hardly noticed, for it is three and a half miles long, two and a half wide, and over a thousand feet deep. A black ledge surrounds it at the depth of six hundred and sixty feet, and thence to the bottom is three hundred and eighty-four feet. The bottom looks, in the daytime, like a heap of smouldering ruins. The descent to the ledge appears to the sight a short and easy task, but it takes an hour to accomplish.

We pitched our tents in full view of the volcano, on its western side, and the natives busied themselves in building temporary huts to shelter them from the cold blast that rushed by. All this was accomplished, and we had time to take another view of the crater before dark.

All usual ideas of volcanic craters are dissipated upon seeing this. There is no elevated cone, no igneous matter or rocks ejected beyond the rim. The banks appear as if built of massive blocks, which are in places clothed with ferns, nourished by the issuing vapours.

What is wonderful in the day, becomes ten times more so at night. The immense pool of cherry-red liquid lava, in a state of violent ebullition, illuminates the whole expanse, and flows in all directions like water, while the illuminated cloud hangs over it like a vast canopy.

The bank near us was covered with half-naked natives, two hundred or more in number, all gazing, with affrighted looks and savage wonder, on this surprising phenomenon. Their ancestors would not have dared thus to look upon and into this dreaded abode of the malicious goddess Pele, never having approached it without the greatest fear and awe, and then only to deliver their offering by casting it into the burning pool, to secure a safe transit through her territory.

We sat on its northern bank for a long time in silence, until one of the party proposed we should endeavour to reach the bank nearest to and over the lake; and having placed ourselves under the direction of Mr. Drayton, we followed him along the edge of the western bank; but although he had been over the ground the day before, he now lost his way, and we found ourselves still on the upper bank, after walking two or three miles. We then resolved to return to the first place that appeared suitable for making a descent, and at last one was found, which, however, proved steep and rugged. In the darkness we got many a fall, and received numerous bruises; but we were too near the point of our destination to turn back without fully satisfying our curiosity. We finally reached the second ledge, and soon came to the edge of it; we were then directly over the pool or lake of fire, at the distance of about five hundred feet above it, and the light was so strong that it enabled me to read the smallest print. This pool is fifteen hundred long by one thousand feet wide, and of an oval figure.

I was struck with the absence of any noise, except a low murmuring, like that which is heard from the boiling of a thick liquid. The ebullition was, (as is the case where the heat is applied to one side of a vessel,) most violent near the northern side. The vapour and steam that were constantly escaping, were so rarefied as not to impede the view, and only became visible in the bright cloud above us, which seemed to sink and rise alternately. We occasionally perceived stones, or masses of red-hot matter, ejected to the height of about seventy feet, and falling back into the lake again.

The lake was apparently rising, and wanted but a few feet of overflowing its banks. When I began to reflect upon the position we were in, its insecurity, and the vast and deep fires beneath, with the high basaltic walls encompassing us on all sides, the sulphurous fumes and broad glare, throwing such enormous masses of stone in strong relief by their own fusion, I found it difficult to comprehend how such a reservoir can thus be pent up, and be viewed in such close proximity, without accident or danger. The whole party was perfectly silent, and the countenance of each individual expressed the feeling of awe and wonder which I felt in so great a degree myself, and which the scene was so well calculated to excite.

No one can see all this and yet doubt the theory of the igneous fluidity of the centre of the earth. All combustible causes that we are acquainted with, are totally inadequate to produce such an effect. The whole seemed boiling up like a fountain, differing only in density and colour.

The apparent flow to its southern part, is only because the ebullition on the north side causes it to be higher, and the waves it produces consequently pass over to the opposite side.

We returned to our tents towards midnight, much fatigued, but found sleep impossible after the excitement of such a scene.

At daylight the thermometer stood at 43°, and there was much deposit from the steam-holes. The barometrical height of the encampment on the west side of the crater, was found to be three thousand nine hundred and seventy feet.

The mortar was again fired, and soon after a rebellion was found to exist among the natives in the camp, that threatened to upset all our plans; and, in consequence of it, we were obliged to defer our departure. Dr. Judd soon detected the ringleaders, one in particular, who was holding forth to the Kanakas, advising them, as they now had me in their power, to strike for higher wages; for, if they did so, we should be obliged to pay them double, or any thing extra they might ask for. He was at once made an example of by being turned out of the camp, and sent away.

This had the desired effect, and the rest signified their willingness to go forward; but as many of them desired rest on account of their sore shoulders, we assured them we would remain for a while, provided there was no further difficulty.

From this I well knew that no confidence was to be placed in the natives. I at once despatched an order to Lieutenant Carr, on board the Vincennes, to send on a detachment of fifty men, under officers, as quickly as possible, and likewise to forward an extra supply of provisions with them to meet our wants.

I now employed the day in making observations for the longitude and latitude. Some of the officers were engaged in distributing the loads more equally, and others in descending into the crater.

As I proposed remaining here a few days on my return, I determined to await until then for the exploration of this volcano. Some of the observations then made will be noticed at present, that the nature of the lavas may be more fully understood. This day was employed in becoming acquainted with its paths, and in making sketches. One made by Mr. Drayton, with the camera lucida, is very characteristic, and was taken from one of the best positions for viewing this wonderful place, on the north bank, near its west side. These sketches I conceived would enable me to ascertain if any, and what, alterations should take place between our two visits, for I could not but imagine it must be constantly undergoing change. For this purpose we multiplied our camera lucida drawings, and I descended again nearly to the black ledge for this purpose. The pathway leads down on the north-east side, over frightful chasms, sometimes on a mere edge of earth, and on rocks rent asunder to the depth of several hundred feet. Through these fissures steam issues, which as it reaches the upper part, condenses, and gives nourishment to masses of ferns, and an abundance of small bushes (Vaccinium), bearing a small berry of an agreeable flavour, called by the natives ohela. The descent, however, is not in reality difficult, except in a few places, where it requires some care in passing over the basaltic blocks, that are here piled in confused heaps. On approaching the black ledge, which from above appeared level and smooth, it is seen to be covered with large pieces of lava, rising in places into cones thirty or forty feet high, which are apparently bound down by huge tortuous masses, which surround them like cables. In other places these are stretched lengthwise on the level ledge, and look like hideous fiery serpents with black vitreous scales, that occasionally give out smoke, and in some cases fire.

The immense space which I have described the crater as covering, is gradually filled with the fluid mass of lava to a certain point, above which the walls, or the surrounding soil, are no longer able to bear the pressure, it then finds vent by an eruption, previous to which, however, a large part that is next to the walls of the crater has in a measure become cooled, and remains fixed at the level it had attained. After the eruption, the central mass therefore alone subsides three or four hundred feet, and leaves the portion that has become solid, forming a kind of terrace or shelf: this is what constitutes the "black ledge," and is one of the most striking features of the crater. Its surface is comparatively level, though somewhat uneven, and is generally coated with a vitreous and in some places a scoriaceous lava, from half an inch to an inch thick, very iridescent and brittle. In walking over this crust, it crumbles and cracks under the feet; it seems to be easily decomposed, and in some places had lost its lustre, having acquired a grayish colour and become friable. There was another variety of the vitreous lava, which was smooth and brittle: this occurred in the large hollow tunnels or trenches, the insides of which were rough, and full of sharp and vitreous points. On the turnings and windings small swellings were met, which on being broken off, had a strong resemblance to the bottom of a junk-bottle; at another place, fragments appeared to have been scattered around in a semi-fluid state, in an endless variety of shapes, and so brittle as to be preserved with difficulty. Underneath these was to be seen the real lava or basalt, as firm and solid as granite, with no appearance of cells, and extremely compact; it is seen separated into large blocks, but none that I saw were of a regular figure, though in some places it was thought by others to approach the hexagonal form.

There is a third kind of lava, fibrous in its texture, of quite recent ejection, and procured from the bottom of the crater; this had somewhat the appearance of a dark pumice, but was dense in comparison. On the black ledge the absence of all *debris* from those high perpendicular walls, cannot fail to be remarked; we endeavoured to find an explanation of this, but I was not satisfied with the only one which presented itself. This was to suppose that the fluid mass had recently risen above the ledge, altogether concealing it from view, and that it had entirely fused its surface. The appearances did not satisfy me that this had been the case, nor did the supposition account for the fact, that none had been collected within the last few months; besides, it might be supposed that some portion of the former accumulation ought to have been discoverable, which it was not.

To walk on the black ledge is not always safe, and persons who venture it are compelled for safety to carry a pole and feel before they tread over the deceitful path, as though they were moving on doubtful ice. The crackling noise made in walking over this crisp surface (like a coating of blue and yellow glass) resembles that made by treading on frozen snow in very cold weather. Every here and there are seen dark pits and vaulted caverns, with heated air rushing from them. Large and extended cracks are passed over, the air issuing from which, at a temperature of 180°, is almost stifling; masses are surmounted that it would seem as if the accumulated weight of a few persons would cause to topple over, and plunge the whole into the fiery pool beneath.

On approaching the large lake at the southern end of the crater, the heat becomes almost too stifling to bear. I shall not soon forget my employment therein, in measuring a base to ascertain the extent and capacity of the lake, of which some account will be given hereafter. At about two-thirds of the distance from the north end are extensive sulphur banks, from the fissures in which much steam is continually escaping: in these fissures are seen many beautiful crystals, adhering to their sides; while on the bank itself, some specimens of sulphate of copper, in beautiful blue crystals, were found.

From many places on the black ledge a bluish smoke was seen issuing, smelling strongly of sulphur, and marked by an efflorescence of a white tasteless powder among the cavities: this it was difficult to to detach without scalding the fingers. There were many cracks, where our sticks were set on fire, and some places in the vaulted chambers beneath, where the rock might be seen red hot.

The black ledge is of various widths, from six hundred to two thousand feet. It extends all around the cavity, but it is seldom possible to pass around that portion of it near the burning lake, not only on account of the stifling fumes, but of the intense heat. In returning from the neighbourhood of the lake to the point where we began the ascent, we were one hour and ten minutes of what we considered hard walking; and in another hour we reached the top of the bank. This will probably give the best idea of its extent and the distance to be passed over in the ascent from the black ledge, which was found six hundred and sixty feet below the rim.

To the bottom of the crater, there was a descent at the northwest angle of the black ledge, where a portion of it had fallen in, and afforded an inclined plane to the bottom. This at first appeared smooth and easy to descend, but on trial it proved somewhat difficult, for there were many fissures crossing the path at right angles, which it was necessary to get over, and the vitreous crust was so full of sharp spiculæ as to injure the hands and cut the shoes at every step. Messrs. Waldron and Drayton in their descent were accompanied by my dog Sydney, who had reached this distance, when his feet became so much wounded that they were compelled to drive him back; he was lamed for several days afterwards, in consequence of this short trip into the crater.

These gentlemen, after much toil, finally reached the floor of the crater. This was afterwards found to be three hundred and eighty-four feet below the black ledge, making the whole depth nine hundred and eighty-seven feet below the northern rim. Like the black ledge, it was not found to have the level and even surface it had appeared from above to possess: hillocks and ridges, from twenty to thirty feet high, ran across it, and were in some places so perpendicular as to render it difficult to pass over them. The distance they traversed below was deceptive, and they had no means of ascertaining it but by the time it took to walk it, which was upwards of two hours, from the north extreme of the bottom to the margin of the large lake. It is extremely difficult to reach this lake, on account of its overflowing at short intervals, which does not allow the fluid mass time to cool. The nearest approach that any one of the party made to it at this time was about fifteen hundred or two thousand feet; they were then near enough to burn their shoes and light their sticks in the lava which had overflowed during the preceding night.

The smaller lake was well viewed from a slight eminence: this lake was slightly in action; the globules, (if large masses of red fluid lava, several tons in weight, can be so called,) were seen heaving up at regular intervals, six or eight feet in height; and smaller ones were thrown up to a much greater elevation. At the distance of fifty feet no gases were to be seen, nor was any steam evident, yet a thin smoke-like vapour arose from the whole fluid surface: no puffs of smoke were perceived at any time.

At first it seemed quite possible to pass over the congealed surface of the lake, to within reach of the fluid, though the spot on which they stood was so hot as to require their sticks to be laid down to stand on. This idea was not long indulged in, for in a short time the fluid mass began to enlarge; presently a portion would crack and exhibit a bright red glare; then in a few moments the lava-stream would issue through, and a portion would speedily split off and suddenly disappear in the liquid mass. This kind of action went on until the lake had extended itself to its outer bank, and had approached to within fifteen feet of their position, when the guide said it was high time to make a retreat.

John, the pilot, who was now acting in the capacity of guide, was satisfied they had stayed long enough, and had often "repeated that there was no safety in the bottom of the crater for one moment," and that "the fire would often run over ten or more acres in a few moments." In such a case destruction would be inevitable, and from what I myself have seen, I can readily believe that his opinion is correct. The usual course is for the lake to boil over, discharge a certain mass, and then sink again within its limits. It is rarely seen to run over for more than a day at a time.

John and the natives who are in the habit of frequenting it with strangers, tell many stories of the escapes they have made.

One trip to the floor generally satisfies the most daring, and as long as a person remains there, he must feel in a state of great insecurity, and in danger of undergoing one of the most horrible of deaths, in being cut off from escape by the red molten fluid; yet a hardihood is acquired, which is brought about by the excitement, that gives courage to encounter serious peril, in so novel a situation.

One of the remarkable productions of this crater is the capillary glass, or, as it is here called, "Pele's hair." This is to be seen in the crevices like loose tufts of fine tow; it is to be found also over all the plain, adhering to the bushes. The fibres of this glass are of various degrees of fineness; some are crimped or frizzled, others straight, with small fine drops of glass at one end. These adhering to the berries in the neighbourhood, make one sensible of its presence in eating them. On the leeward side of the crater, the glass is so abundant that the ground, in places, appeared as if covered with cobwebs.

Where Pele's hair is found in quantities, a very fine and beautiful pumice prevails; it usually occurs in pieces about the size of a hazel-nut, of a greenish yellow colour, not unlike small pieces of new dry sponge, but so much lighter as to be blown about by the wind. The southern bank of the crater is covered with this product for some depth, and the sand blowing over it renders it stationary.

The day we remained at the volcano was employed by the natives in preparing their food, by boiling it in the crevices on the plains from which the steam issues; into these they put the taro, &c., and close the hole up with fern-leaves, and in a short time the food was well cooked. All the water for drinking is obtained here by the condensation of the stream, which gathers in small pools, and affords a supply of sweet and soft water. From the numbers in the camp who used it, this supply became rather scanty, but it did not entirely give out.

The crater, at night, was extremely beautiful, and we sat for a long time watching its changing and glowing pool. The shadows thrown by the walls of the crater seemed to reach the heavens, and gave it the appearance of being clothed in a dark cloud; but on looking at it more attentively, and shutting off the glare of the crater, the stars were perceived shining brightly.

About four o'clock a loud report was heard from the direction of the boiling lake, which proved to have been caused by a large projecting point of the black ledge near the lake having fallen in and disappeared.

The lowest temperature, during the night, was 48°. There was a light wind and no dew.

At dawn on the morning of the 18th, the signal called us to make preparations for our journey, and as all things had now been more systematically arranged, we anticipated less difficulty in our onward journey. The natives seemed to be all in good spirits, and moved with alacrity.

Our camp hitherto (as all camps are) had been beset with hangers-on, in the shape of wives, mothers, and children, who were not only much in the way of those to whom they belonged, but were great consumers of the food the natives had supplied themselves with for the journey. As we already entertained apprehensions of a scarcity prompt measures were taken by Dr. Judd to get rid of our troublesome guests, which we succeeded in doing, though not without some difficulty, and a low monotonous growling, that indicated much displeasure on the part of the fair sex.

The divisions now set off, and our host was less mob-like, partly owing to the impossibility of going in squads, the paths having become more contracted.

The water that I have mentioned as being found in the small pools, the product of condensation, was exhausted before we left the crater. This was in consequence of the natives having filled their calabashes; and we had particularly instructed our servants and the sailors to do the same. The former provided themselves; but the latter, sailor-like, preferred to take their chance of meeting with it on the road, rather than carry a load for their future supply. I discovered, after we started, that they were unprovided, but was informed that there was, within about two miles, an old canoe which would be found full of water. On our arrival at it, we found that the natives, who had preceded us, after supplying themselves had emptied out the rest.

Our route was taken at first and for a few miles in a due west line, for the top of Mauna Loa, over the extensive plain surrounding the volcano; it then deviated to the southward, over an ancient lava-bed, very much broken, that appeared never to have been traversed before. We now became for the first time acquainted with clinkers. To describe these, it is merely necessary to say, they are like the scoria from a foundry, only instead of being the size of the fist, they are from one to ten feet square, and armed on all sides with sharp points; they are for the most part loose, and what makes them still more dangerous, is that a great deal of the vitreous lava is among them. Of the origin of these immense masses and their extent, I shall have occasion to speak hereafter: suffice it for the present to say, there never was more difficult or unpleasant ground to travel over.

Our guide Puhano of Puna, who we understood had accompanied Douglass and Lowenstern on their ascents, now took the lead, but it soon appeared that he knew little of the route. I therefore, in company with Mr. Brinsmade, took the lead, compass in hand; and after walking over the broken and torn-up ground, we turned again towards the hill-side, and began a rapid ascent through a belt of long grass, where the rock was covered with white clay, and seldom to be seen. This part appeared to have suffered much from drought; for in passing along we came to several narrow and dry water-courses, but met with no water.

At two o'clock we had nearly reached the upper limit of the woods, and as the clouds began to pass over, and obscure the path, we determined to halt and encamp. We made several fires along the route, in order to guide those behind, and as a mark for the stragglers; bushes were also broken off, and their tops laid in the direction we were going, by the natives; and I likewise had the trees blazed, as a further indication, well known to our men. Chronometer sights were taken here, and the altitude by barometer was five thousand and eighty-six feet.

During the day, the reason that had induced the natives to empty the water out from the canoe, became evident in their anxiety to sell us water. My friend the consul had hired an especial bearer for his calabash of water, determining that he would have a sufficient supply. By our watching and cautioning the old man who had it in charge, he became somewhat alarmed and unsteady, as I thought also from fatigue. When he had arrived within a short distance of the camp, he stumbled on a smooth place, fell, and broke the calabash into numerous pieces. Those who were coming up, seeing the accident, rushed to partake of its contents, but the fluid quickly disappeared in the loose and absorbent lava. This was a dreadful blow to my friend's feelings, and produced much laughter among us, in which the consul himself at length joined; although I must confess I was somewhat of his opinion, that it had been done designedly, either to secure the sale of that belonging to others, or to get rid of the load, which had been a great annoyance and trouble to the bearer all day, and for which he had already been paid.

On the baggage coming up, Mr. Eld reported a deserter, who was brought up for trial, and an investigation had, in order to make an example of him. He was a swarthy and diminutive-looking person, with rather a good countenance, but it was just then so distorted with fright, that it was impossible to look at him without laughing. It appeared that he had been left by his chief at the crater, to superintend some hogs and provisions that belonged to the party; while thus employed, Mr. Eld, the officer in charge of the rear, wanted another person to carry on the clock-case, as one of the four that were attached to it had not been forthcoming; he in consequence had pressed the culprit into the service against his will, taking him from the station where his chief had placed him. On the route over some of the roughest part, seeing this man somewhat fatigued, Mr. Eld kindly relieved him for a few moments, of which he took advantage and disappeared. Mr. Eld immediately left the load and gave chase, but in a few moments he stumbled and fell over the clinkers, by which he received a contusion on the knee; rising with the prospect of having to aid in transporting the clock, he discovered the delinquent concealed under a neighbouring bush, and immediately forced him to return to his load, and thus brought him on. Mr. Eld, on hearing the facts of the case told by the native, interceded in his behalf, and Dr. Judd, after giving him an admonition, set him at liberty to return to his charge at the volcano.

We were now for a long time enveloped in mist, for we had reached the region of clouds. The thermometer at 6 P. M., stood at 54°; the dew-point at 44°. Instead of trade-winds from the northeast, we had a mountain breeze from the west, which caused the temperature to fall to 43°, and produced a feeling of great cold, being a fall of forty degrees since we left the coast.

The men whom we had hired just before leaving Hilo, belonged, as will be recollected, to Kanuha's district, and engaged to find themselves in food; but many of them had been so improvident of their supply that it was now found to be gone, and as many as twenty of them were without any thing to eat. When this became known, we proposed to supply them with rations at the original cost of the poe, which we had for the men hired of Pea; but no argument would induce them to accept it on these terms, and they went round begging and borrowing all they could from those who were supplied. The reason that they would not buy the poe I found was, the dislike they had to take up any of their wages before the whole became due, and in consequence many of them went hungry. It was amusing to watch some of these, who frequently would seat themselves near a party who were eating; but it did not produce any effect upon those who had plenty, as they knew the reason of their being without food. From what I saw of these islanders on this trip, I am not disposed to believe them so hospitable, or so thoughtful of each other, as the Tahitians or Samoans. Selfishness is a predominant trait in the character of the Hawaiians, and when they are thus associated together, it shows itself more strongly than at other times.

At sunrise on the 19th, we had the temperature at 48°.

As the ascent was now becoming laborious, we selected and left the things we had no immediate use for, to follow us by easy stages. We then took a diagonal direction through the remaining portion of the woods. By one o'clock we had lost all signs of trees, and were surrounded by low scraggy bushes: the change of vegetation became evident, not only in species, but in size; we also passed through extensive patches that had been destroyed by fire. Sandalwood was seen, not as a tree, but a low shrub.

During the day we had passed extensive caves, in all of which I had search made for water. These often lead a long distance under ground, and some of the men passed in at one end and out at another.

Intending to stop on Sunday not far above these caves, calabash-tops were left in one or two where water was found to be dropping, in hopes by this means to procure a small supply; but on returning the next day, it was found that very little had accumulated. These caves or tunnels had apparently been caused by a flow of lava down the side of the mountain, which on cooling had left the upper part arched or vaulted, the fluid running off at its lower extremity or opening and spreading itself over the surface. The opening into them was formed by the roof having fallen in, and partly blocked up the tunnel. At no great distance from the opening, the floor on each side was smooth and closely resembled the flow of the lava on the surface. These openings were usually known by the quantity of raspberry and other bushes around them; and they reminded me of the caverns in limestone districts.

Between two and three o'clock, we again became enveloped in clouds, and it was necessary for us to redouble our precautions against losing the track. Fires were again resorted to, which at short distances could be seen in the intervals of mist.

Deeming it advisable to make an early halt, we stopped shortly after three o'clock, to allow all the baggage to come up. Notwithstanding the size of our party, there was no perceptible track left or any thing by which to be guided, but the smoke of the fires, or occasionally a broken shrub, as a finger-post. All the ground was hard metallic-looking lava, and around nothing but a dreary waste. The voice too became fainter, as the atmosphere grew more rarefied. Our encampment was called the Sunday Station, on account of our having remained quietly here on that day. The altitude given by the barometer was six thousand and seventy-one feet, at which we found ourselves above the region of clouds, and could look down upon them.

At night, on pulling off my clothes, I noticed the quantity of electrical fluid elicited, which continued for some time to affect the objects about me, particularly a large guanaco-robe I had to sleep in.

This afternoon, we found that it would be impossible to drive the bullock any further; for the animal began to suffer from fatigue and the want of water, our supply of which was almost exhausted; he was accordingly killed. The natives were now hawking water about the camp at half a dollar the quart. I am not aware that they sold any at that extravagant price; but I saw some of them in possession of handkerchiefs and old shirts, which I understood had been given for it.

Ragsdale, one of our guides, who had been despatched to Papapala from the crater to purchase provisions, now joined us, with two more guides. He brought information that he had obtained forty goats, and that we should receive full supplies. This was encouraging news, for I felt somewhat doubtful from the first in relying on the natives, and their behaviour at Kilauea was not calculated to raise my opinion of them. I found also, as we ascended the mountain, that even light loads had become heavy, and those of any weight, insupportable; that our time was rapidly passing, and we had a long way yet before we reached the summit; and that the native food was nearly exhausted, while the supply for our own men was rapidly consuming.

The two guides that Ragsdale brought with him, were perfectly familiar with the mountain. One of them was a celebrated bird-catcher, called Keaweehu, who had been the guide of Lowenstern, and knew where water was to be obtained; but it was ten miles distant. He said, that if he was furnished with calabashes and natives to carry them, he would be able to bring us a supply by the afternoon, if he left before the day dawned; and that it would be two days before we could get any snow, even if it were found on the mountain. It had never crossed my mind, that there was any probability of this latter resource failing us; I had in truth relied upon it with confidence, and concluded that in the event of only one snow-storm we should be enabled to find some place for a deposit, to save enough water for all our wants.

We now numbered nearly three hundred persons in camp, with but a few small calabashes containing five or six gallons of water; and all, more or less, felt the effects of the rarefied air. Mr. Brackenridge had a violent attack of the mountain-sickness, although one of the stoutest of the party; many of the natives felt unwell; and we all began to experience great soreness about the eyes, and a dryness of the skin.

At midday I found it impossible to obtain the dew-point with one of Pouillet's hygrometers, but after the clouds reached us in the afternoon it was found at 10°.

Dr. Judd had his hands full administering to the wants of all; but his spirits, always buoyant and cheerful, made every one comfortable and happy around him.

Old Keaweehu told us that we had taken the wrong road to the mountain, and that Puhano was not at all acquainted with the right road,—a fact we had long before discovered; that if we had come by way of Papapala, he would have been able to conduct us by a route we should have found water every few miles. Ragsdale was now sent off to meet the party from the ship, with orders for them to take the route now indicated, and for him to act as their guide.

Sergeant Stearns, in his excursions on the flanks of the party, shot some mountain geese, and whether to impute it to the appetite created by the mountain air, or the flavour of the bird, they certainly proved a great delicacy.

The 20th, being Sunday, was a day of rest: the natives requested that it might be so, and I readily yielded to their wishes. I was anxious, however, to ascertain the state of the mountain, and whether there was any snow to be had on its top, for I now felt satisfied that the want of water would prove the greatest difficulty I should have to encounter, in remaining there as long as I intended.

Lieutenant Budd received orders to set out with a few attendants at daylight; but after making his preparations, and having all things ready, the natives refused to accompany him on account of its being Sunday, as they said. I am, however, inclined to believe that fear had something to do with it, for they never knew of any one having gone up this mountain before, and thought me mad for taking so much trouble to ascend it. They said that I must be in pursuit of gold and silver, or something to sell for money, as I never would take so much trouble, and spend so much money, unless it were to acquire great riches. In the morning Dr. Judd had religious service with the natives, and the day was passed without work. It was a most beautiful day: the atmosphere was mild, and the sun shone brightly on all below us. We enjoyed a clear and well-defined horizon, the clouds all floating below us in huge white masses, of every variety of form, covering an area of a hundred or more miles; passing around as they entered the different currents, where some acquired a rotary motion that I had never before observed. The steam-cloud above the volcano was conspicuous, not only from its silvery hue, but by its standing firm, like an immense rock, while all around and beneath it were in motion. The vault overhead was of the most cerulean blue, extending to and blending with the greenish tint of the horizon; while beneath the clouds, the foreground and distant view of the island was of a dark green. The whole scene reminded me of the icy fields of the Southern Ocean; indeed the resemblance was so strong, that it seemed only to require the clouds to have angular instead of cumular shapes, to have made the similarity complete. It was perceived, that as masses of clouds met they appeared to rebound, and I seldom saw them intermingle; they would lie together with their forms somewhat compressed, and their outlines almost as well preserved as when separated and alone. After three o'clock, when the sun was retiring, the clouds advanced up the mountain-side, and finally we became immersed in them. This happened on both days at nearly the same hour.

During the day, I succeeded in obtaining sets of observations for latitude and longitude. I experienced for the first time much fatigue in holding the instruments. The barometer and thermometer were observed throughout the day at the hours arranged with the observatory at Hilo.

In the evening we were much gratified at receiving fifteen gallons of water, which the natives had brought ten miles in open-mouthed vessels, over the rough mountain roads: this they do by placing some fern-leaves on the top of the water, when it carries as well as a solid, and will bear much agitation without spilling. Though a very small supply for our necessities, it was a great satisfaction to know that it was now within reach of us. Partially relieved from this pressing difficulty, our attention was turned to the fuel, and I at once saw the necessity of providing some means for procuring a supply, as we were now at one of the last points where it was to be obtained. We were certainly two, if not three days' journey from the summit, and an ascent of eight thousand feet was still to be accomplished.

After dark the mist cleared off, when we saw the majestic cloud of the volcano hanging as though illuminated in its position. This is one of the best guides for the mountain, both by night and by day; any one who visits Mauna Loa, and the crater, cannot but admire this constant emblem of the destructive elements below, fitted as it is, from its purity, grace, and majestic appearance, to blend harmoniously with the blue vault above.

It was determined to fix a post here, in order to forward supplies of wood and articles of provision as they came from below. Pea, our chief, was accordingly ordered to select a site which would answer this purpose.

On Monday, 21st, we set out at an early hour. The ascent now became much steeper than any we had hitherto experienced, for the whole face of the mountain consisted of one mass of lava, that had apparently flowed over in all directions from the summit. The sun shone brightly, and his rays seemed to fall with increased power on the black lava. No wind was stirring, and the exhaustion consequent on the rarefied air we were breathing, made the labour of climbing very fatiguing; many suffered from nausea and headache, and the desire for water redoubled in both whites and natives. For water they could no longer find a substitute in berries, as they had previously done, for that fruit had disappeared, and the only vegetation left was a few tufts of grass.

About noon, Dr. Judd volunteered to proceed with the guide to ascertain if there was any snow, and at what distance. It was agreed that we should continue to move on in the same direction, and encamp when we found we could get no higher. Most of the party were now lying about on the rocks, with the noonday sun pouring on them; a disposition to sleep, and a sensation and listlessness similar to that produced by sea-sickness, seemed to prevail. I felt the former strongly myself, and enjoyed as sound an hour's sleep on the hard lava as I have ever had. The burdens had become intolerably heavy, and all complained of their inability to carry them. The use of the sextant had become still more fatiguing than the day before, causing me much pain to hold it. From what I myself experienced, I was satisfied that every one's strength had decreased nearly one-half.

We managed, after an hour's rest, to go on two miles further, and then encamped. No place offered where we could drive a peg for the tents, and loose blocks of lava were resorted to, to confine the cords. The principal inducement for stopping at this spot was the discovery of a large tunnel, or cave, in which the men could be accommodated, and which was at a sufficient distance from the Sunday Station for a day's journey. This station was afterwards known as the Recruiting Station, because all the sick and wounded from the higher stations were sent here as to an hospital.

Long after we had finished our arrangements for the night, and even after it had become dark, we looked in vain for Dr. Judd and his companion. We therefore lighted our fires as a signal to him, and were soon rejoiced to see him safely back. He brought with him a small snow-ball, and the agreeable intelligence that we should find abundance of snow on the top of the mountain, provided we reached it next day; for he told us it was melting fast. He had travelled for more than four hours and a half before he reached the snow, and had been an hour and a half returning down hill, on a run. The point where he met the snow appeared to him to be about equidistant from our present camp and the summit of the mountain.

I now felt that the troubles of my scientific operations were beginning, for I found that one of the iron cross-bars of the lower part of the pendulum-frame, which had been entrusted to a native to carry, had been broken into two pieces. To provide, however, for mishaps of this description, I had brought the armourer of the Vincennes with me. There would have been no difficulty in his mending it under favourable circumstances; but, fearing that in our present position he might not succeed, I at once despatched a messenger to the ship, with orders to have a new one made and forwarded as speedily as possible.

Although it was somewhat encouraging to know that snow had been found, yet we were apprehensive it might disappear before we could reach it. On holding a consultation, it was thought best that all those who were not absolutely needed for the intended operations on the mountain should make a hasty trip to the top, or terminal crater, and then return to the coast; for our provisions, as well as water, were so low, as in all probability to reduce us to a very short allowance. It was, therefore, determined, that the consul, Mr. Brackenridge, Mr. Drayton, and Mr. Elliott, should each be supplied with a day's allowance, and go on at an early hour to the summit, unencumbered, in order to satisfy themselves with a sight of it, return before night to the Recruiting Station, and thence proceed down the mountain. I resolved to go on with a few of the instruments, to choose an encampment on the summit.

The Recruiting Station was left under charge of Lieutenant Budd, and it was afterwards made a depot for our stores, &c.

All the parties set out at an early hour on their several tracks and duties, while some of the officers forwarded the heavy articles; for we now found the necessity of advancing, step by step, towards the summit. The main difficulty was the want of water at the depot, but this I was in hopes might be supplied from above by the return of the parties who were to carry up the instruments, provisions, and wood.

My party consisted of the guide, Keaweehu, twelve Kanakas, and seven of our own men, including the sergeant. At about twelve o'clock we reached a spot where the guide pointed out a few half-burnt sticks, as the place where Lowenstern had cooked his dinner. As the two Kanakas who had charge of the bundles of wood had contrived to lighten their loads very much by dropping part of it by the way, I gave them orders to take the wood he had left to cook our supper.

Mr. Brackenridge passed me on his way from the crater. From him I ascertained we were yet three and a half miles from the terminal point. I gave him instructions to repair to the lower country, as there was nothing for him to do in this barren region.

The wind blew a strong gale from the southwest, and was piercingly cold: the thermometer, at 3 P. M., showed 25°. For some time previous, I had been obliged to keep the Kanakas before me, to prevent them from throwing their loads down and deserting; but I found them unable to go any further; being nearly naked, they were suffering much. Seeking a place of shelter under a high bank of clinkers, partly protected from the wind, I allowed them to deposit their loads, and gave them permission to return, upon which they seemed actually to vanish; I never saw such agility displayed by them before.

As soon as the natives who were on the road saw those from the upper party coming down, they could no longer be induced to face the cold, and all deserted at once. The mountain became in consequence a scene of confusion; being strewn with instruments, boxes, pieces of the portable house, tents, calabashes, &c., which the natives had dropped.

I now found myself with the guide and nine men, with nothing for a covering but the small tent used for the instruments, and the coming on of a snow-storm made it very necessary to have something to protect us. The thermometer had gone down to 18°, and most of the men were much affected with the mountain-sickness, with headache and fever, and were unable to do any thing. I felt quite unwell myself from the same cause, having a violent throbbing of the temples and a shortness of breath, that were both painful and distressing. With the few men that remained able to work, I began building a circular wall of the clinkers, to enable us to spread what little canvass we had, over it; all the blankets we could spare were hung inside, which I hoped would keep us from being frozen. After succeeding in this, which occupied us till dark, we made a fire to prepare our scanty supper, and some tea for the sick. I now discovered that three of the men were absent; and on inquiry, found that they had gone down, in hopes of finding my tent, which they supposed had been left about a mile below. One may judge of my uneasiness, as it was pitchy dark, and there was no trace whatever of a track, or any thing by which they could find their way back, over many dangerous chasms. I had barely wood enough to heat the water for the sick, and no more than a piece or two of candle, without any lantern, and therefore no obvious means of making a signal. However, as necessity is the mother of invention, I turned my clothes out of the calabash, and fastening a piece of a cotton shirt over it, made quite a respectable lantern: this was placed on the most conspicuous point. After the light had been extinguished several times, and a series of difficulties encountered in relighting it, we succeeded in establishing our lighthouse; and though a feeble one, it had the desired effect. The men, when they first saw it, had already strayed off the track; and had it not been for the lantern, would not have been able to join us again. They came back, crawling on their hands and knees; and had travelled thus for most of the distance. The whole time they had been absent, was two hours and a half. Although I felt very much displeased with their departure without permission, I could not find fault with them,—so much was I rejoiced to see them in safety; and when I knew they had incurred all this fatigue and risk to make me more comfortable.

The snow now began to fall fast. My steward, from his thoughtfulness, had an ample supply of tea, which he had carried in his knapsack to save it from being plundered; and consequently we had enough to supply all.

The supper being ended, we stowed ourselves away within the circular pen; and while the men kept passing their jokes about its comforts, the wind blew a perfect hurricane without. I was glad to find the spirits of those who were sick, began to revive. The thermometer had fallen to 15°. The height found by the barometer was thirteen thousand one hundred and ninety feet.

All were soon fast asleep; and although there was scarcely a foot of level rock, they seemed to rest as comfortably as possible. I had little inclination to sleep; for difficulties seemed to increase upon me, and I felt some uneasiness about one of my men, named Longley, who had not come up with us. The men all said, that he had returned to the Recruiting Station; having been unwell and unable to proceed.

At about four o'clock in the morning, the snow had accumulated in such quantities on our canvass roof, that it broke in upon us, bringing down also some of the stones. This was a disagreeable accident; and after escaping from beneath the ruin, it became necessary to take the covering off and clear the snow out of the pen, which was nearly full. This was the work of nearly an hour of unpleasant labour; but it was much more easily accomplished, than getting ourselves warm again. I need scarcely say, I passed a most uncomfortable night.

When daylight came, the storm had somewhat abated in violence, and I despatched the men for the tents and wood, a part of which had been dropped by one of the natives within half a mile of our position. A man soon returned with the wood, and another brought forward a calabash, in which we fortunately found some provisions, and we soon had what we little expected, something to eat, and what the men called a comfortable breakfast.

It was very pleasant to find the sick ones reviving, and good-humour and cheerfulness so predominant among them that they seemed ready for further exertions. We had now all that was necessary to push on to the summit. I left a flag on a rocky peak near by; and this was afterwards called the Flag Station.

About eleven o'clock we set out, and were obliged to cross a mass of clinkers, which our guide had hitherto endeavoured to avoid. When, after two hours' laborious walking, we reached the top or terminal crater, it still continued snowing in squalls, with a keen southwest wind driving in our faces; the ground being covered a foot deep with snow, rendered it more dangerous and irksome to pass over such loose and detached masses.

From intelligence that had been brought me by the gentlemen who had gone before and taken a hasty look into the crater, it was thought that the descent into it would prove easy, and that I might encamp on its floor; but I found after travelling a long distance over the rugged surface, that it was impossible to succeed in making a descent. I was, therefore, compelled to return, and choose the smoothest place for our encampment I could find. It was after four o'clock, and but little time was left for the men to return. As soon as they had pitched the tent, within about sixty feet of the ledge of the crater, using large blocks of lava to confine its cords, I sent them off under charge of the guide to the Flag Station, and remained with my servants only.

By six o'clock I thought that we had made ourselves comfortable for the night, and that the storm had so far moderated that it would not trouble us; but a short hour proved the contrary. Our fire was dispersed, candles blown out, and the tent rocking and flapping as if it would go to pieces, or be torn asunder from its fastenings, and disappear before the howling blast. I now felt that what we had passed through on the previous night was comfort in comparison to this. The wind had a fair sweep over us, and as each blast reached the opposite side of the crater, the sound which preceded its coming was at times awful; the tent, however, continued to stand, although it had many holes torn in it, and the ridge-pole had chafed through its top.

It was truly refreshing, after the night we had passed, to see the sun rising clear. It seemed quite small, and was much affected by horizontal refraction, as it appeared above the sea, forming a long horizontal ellipse of two and a half diameters, first enlarging on one side and then on another. After it had reached the height of two diameters above the horizon, the ellipse gradually inclined on the right, and in a few moments afterwards its longer axis became vertical, and it then enlarged at the bottom, somewhat in the form of an egg.

My servants fruitlessly attempted to make a fire; after they had exhausted all their matches without success, we each took turns to ignite a stick, after the native fashion, but with no more success; the nearest approximation to it was plenty of smoke. After making many vain attempts, and having had but little sleep, we took to our blankets again, to await the coming of some of the party from below.

At about eleven o'clock on the 23d, Drs. Judd and Pickering pulled open the tent, and found us all three wrapped up in our blankets. They had passed the night at the Flag Station.

On inquiry, I found that Longley had not been seen for the last two days and nights; and fears were entertained that he had missed his way and perished.

It might, at first view, appear strange that any one could be lost on a bare mountain side, with nothing to impede the sight; but, shut out the lower country, and one would be very much at a loss in which direction to go; the surface is so much broken, and so many spots resemble each other, that even an accurate observer might soon become bewildered.

The last time Longley had been seen was by Mr. Brackenridge, who encountered him near the path, sick, and had carried him to a sheltered spot, and covered him with some of his warm clothing. Lieutenant Budd, on being informed of it, had endeavoured to persuade several natives to go in search of him; but none could be induced to do so, as they thought it impossible to find their way back in the dark.

A search was set on foot in the morning, but had continued without success.

The storm which with us had been snow, was rain at the Recruiting Station, and they were in hopes of getting from it a supply of water; but in the morning the lava-rock appeared as dry as before.

The news Dr. Judd brought was far from encouraging. Besides the disappearance of Longley, I learned that nearly all the natives had deserted the boxes; that many of them had not even reached the Recruiting Station, and that Ragsdale and his forty goats had not come; nor were there any tidings of the party from the ship. The natives hearing of our distresses, and probably exaggerating them, had refused to furnish any thing unless at exorbitant prices. The officers had very properly rejected the whole that was offered; for, although our allowance was small, we trusted that the provisions from the ship would arrive in a day or two at farthest.

I despatched a messenger to desire that the men coming from the ship should be employed first in hunting up Longley, although I entertained little hope of his being found alive, exposed as he must have been to two such severe nights and days, without food or covering from the storm.

After getting a fire lighted, and something to eat, Drs. Judd, Pickering, and myself, set out to reconnoitre the crater for a more suitable place in which to establish the tents; but, after much search, we found none that offered so many facilities as that I had accidentally chosen the first night. Dr. Pickering parted from us, and was the first to make a descent into the crater.

Nothing can exceed the devastation of the mountain: the whole area of it is one mass of lava, that has at one time been thrown out in a fluid state from its terminal crater. There is no sand or other rock; nothing but lava, on whichever side the eye is turned. To appearance it is of different ages, some of very ancient date, though as yet not decomposed, and the alternations of heat and cold, with rain and snow, seem to have united in vain for its destruction. In some places, it is quite smooth, or similar to what has already been described as the pahoihoi, or "satin stream;" again, it appears in the form of clinkers, which are seldom found in heaps, but lie extended in beds for miles in length, sometimes a mile wide, and occasionally raised from ten to twenty feet above the surface of the surrounding lava.

The place where these clinkers appear to me to have been formed is in the crater itself; there they have been broken up by contending forces, and afterwards ejected with the more fluid lava, and borne upon its surface down the mountain side, until they became arrested in their course by the accumulating weight, or stopped by the excessive friction that the mass had to overcome. In this way the beds, or rather streams, of them might have been formed, which would accumulate for miles, and continue to increase as the crater discharged this description of scoria. What strengthened my opinion in this respect was, that there were, apparently, streams of pahoihoi coming out from underneath the masses of clinkers wherever they had stopped. The crater may be likened to an immense cauldron, boiling over the rim, and discharging the molten mass and scoriæ which has floated on its top.

This day we received news of the arrival of Lieutenant Alden at the Recruiting Station, with the detachment from the ship; but he had brought no provisions, and none had yet reached the station. This arrival, therefore, instead of supplying our wants rather increased them.

The small transit was brought up this day, and, to add to my vexations, on opening it I found the level broken. I did not stop to inquire by what accident this had happened, but within ten minutes despatched an order to the ship for another, which was distant sixty miles.

We received a supply of wood from below, and sent down water in return. John Downhaul, a native, who was one of the party, desired permission to return to the ship, as, according to his own account, he was almost dead. Dr. Judd had met him with a number of natives in a cave, as he came up, the morning after the storm. It appeared, from John's account, that he had advised some of the natives to stop and take care of him in their hasty retreat, but that he had only retained them with him by threatening them with the evil spirits of the mountain. .When morning came, they left him. He had been very sick, vomiting and bringing up blood, and felt unable to move any further up the mountain; but having my portfolio, he did not wish to intrust it to the care of another. Dr. Judd prescribed for him, and sent him down, with directions to proceed to Hilo. On his way down, Downhaul met one of the carriers of the provisions for the consul's party, whom he stopped and began to question; finding that he was loaded with provisions, and being quite hungry, he told him to put down the load, for he was the " tommodore's man," and must be obeyed, and accordingly helped himself without stint, inducing the native to partake also. When the man reached Mr. Brinsmade, the articles were found to be very much diminished in bulk, and on inquiry, the native at once told the whole truth, and how he had been deceived.

In the evening, at 6 P. M., the thermometer stood at 29°, and during the night it fell to 22°.

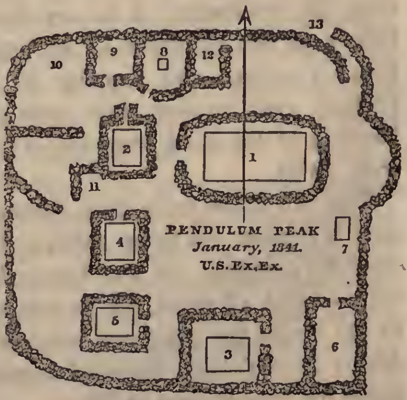
Christmas-day set in quite stormy, with snow and a gale from the southwest; it was very cold, and the only way we had of keeping warm was to wrap ourselves up with blankets and furs. We had just wood enough to heat a little chocolate.

The small instruments having arrived, I began some of the observations.

While the rest were employed in making our tents as tight as possible, in the one Dr. Judd and myself occupied, we discovered a great deposit of moisture, which, on examination, was found to be caused by steam issuing through a crack in the lava. On placing a thermometer in it, it rose to 68°. The tent was forty feet from the edge of the precipice of the crater, and it was not surprising that the steam should find its way up from the fires beneath. As it somewhat annoyed us, we pounded and filled the seam full of broken pieces of lava. This circumstance led to the discovery of a small piece of moss, the only living thing, either animal or vegetable, that was found within six miles distance, or within four thousand feet of the height of the terminal crater. This moss was here nourished by the steam that escaped, which supplied it with warmth and moisture.

This day we made many experiments on the temperature of boiling water: the mean of the observations gave the boiling temperature at 188°, being five hundred and sixty feet to each degree of temperature. At the volcano of Kilauea, I had found it less than five hundred and fifty feet to each degree; while the result of careful experiments at the Sunday Station, gave five hundred and fifty-five feet to the degree, and at the Recruiting Station, five hundred and fifty-eight feet.

We also employed ourselves in building a high stone wall around a space large enough to contain the houses and tents, when they should all arrive, having found the necessity of it to protect ourselves from the violent winds. Besides this, each tent was to be surrounded by a separate wall, up as high as the eaves, when completed. The plan was as exhibited in the annexed woodcut.



1. Pendulum-house. 2. Captain Wilkes's tent. 3. Officers' tent. 4, 5 and 6. Men's quarters. 7. Magnetic house. 8. Observatory. 9. Store-house. 10. Wood-house. 11. Kitchen. 12. Thermometer and barometer house. 13. Entrance.

On the morning of the 26th, news was brought that Longley had been found by Messrs. Alden and Eld: when discovered, he was almost unable to speak, and quite delirious. He was carefully attended to by these officers, who were fortunately provided with the means of making him comfortable at once from their stores, a circumstance which probably saved his life. Suitable men were allotted to watch over him. He was found lying in a hole in the rock, with his hat, pea-jacket, and mittens on: his water-flask was hanging to his neck, just as he had left the encampment three days before. He complained constantly, in a low tone, that some person had driven him out of his house.

I cannot give a better idea of the state of this mountain, than the fact, that Longley, who had been missing three days and three nights, was finally found lying near the route which had been travelled over by thirty or forty men twice or three times each day, many of whom were actually in search of him.

Some of the boxes now began to make their appearance, by the aid of the sailors from the ship; but the provisions had not arrived, and the allowance was again reduced. Most of the men were reported as without shoes, having worn out those they left the ship with; and being barefooted, could not move over the sharp vitreous lava. Many of them were likewise said to be ill with the mountain-sickness. Wood was brought up, and water sent down to the lower station, in exchange.

The wind had been fresh throughout the day; but towards night it began to increase, and by eight o'clock we had another violent gale from the southwest. I do not think I ever passed such a night: it blew a perfect hurricane for several hours, causing an incessant slamming, banging, and flapping of the tents, as though hundreds of persons were beating them with clubs. These noises, added to the howling of the wind over the crater, rendered the hours of darkness truly awful.

The two other tents were blown down, but mine stood firm. The men lay under the fallen tents, and were made far more comfortable after the accident. It was impossible to stand against the gusts; and we watched all night, for no one could sleep. The thermometer fell to 17° inside the tent; and water in the bags, under my pillow, froze. About three o'clock, the wind began to moderate; and at sunrise, we found the temperature at 20°.

From the news received on the 25th, respecting the condition of the men, I determined to see them myself. Dr. Judd and I therefore set out on the morning of the 26th; and when about two miles from the summit, we met Lieutenant Alden, Dr. Pickering, and Mr. Eld, who were coming up to see me, to report the condition of the men. The account they gave of them was any thing but cheering. On the arrival of Lieutenant Alden, I had directed that he should take an intermediate post between Lieutenant Budd's Recruiting Station and the summit crater, in order that the men belonging to one station might be able to bring up their loads and return before night. This, Lieutenant Alden informed me, he had done: his station was at the height of eleven thousand eight hundred feet.

I now saw more strongly the necessity of my going down, in order to ascertain the exact situation of things, give the men encouragement, and renew the spirit with which they had left the ship, as volunteers. I have always found that sailors are easily encouraged; and by putting a light heart and cheerful face upon the times, they quickly reassume their good spirit; and this I found to be the case in the present instance.

We parted; Lieutenant Alden, Dr. Pickering, and Mr. Eld going up to the terminal crater, while Dr. Judd and myself continued to descend for about four miles. There we found a large number of men in a temporary tent, lying on the panels of the portable houses: some of them were suffering from mountain-sickness, others vomiting; some had attacks of diarrhœa, others had not got over their forced march, and showed me their bleeding feet and shoeless condition; all were looking half-savage, with overgrown beards, dirty and ragged clothes, —so totally different from their trim and neat appearance on board ship, that I was shocked at the change produced in so short a time.

Whilst Dr. Judd administered to the sick, I spoke to those who were well, and succeeded in animating them: they all assured me they were "good pluck," and such I afterwards found them. They set about mending their shoes and making sandals; and by the next day, many were transporting small loads up the mountain side.

Poor Longley had shelter in the hollow of a rock, under a sail, carefully attended by four of his messmates. It was affecting to see these simple-hearted fellows depressed in spirits, and looking as if cast away, superintending the sick man with all the care possible, illy provided with things to make him comfortable, yet contented to wait until they could receive relief. This we promised would reach them before night.

I have always admired the care and attachment which sailors show for each other; even the most reckless are constant in their attentions to their messmates, when ill. I have never yet seen them neglect each other under these circumstances. Many instances of their disinterestedness and feeling that came under my observation on the mountain might be mentioned, did I not feel it would be a digression from the course of the narrative, that would not be allowable.

The only account that Longley could give me was, that being sick, he had lain down near the path, and was unable to move afterwards: he endeavoured to make signals to those he saw passing, but could attract no attention.

At about four o'clock we reached the Recruiting Station, having encountered the boxes and various articles, together with pieces of the portable house, strewed along the way. These had been left by the natives, who deserted *en masse* when those who had left me the first night came down giving exaggerated accounts of the cold, and other difficulties of the journey. I found Lieutenant Budd quite well, and only a few of the men that were with him sick: they had little or no provisions.

The difference of temperature between the altitude of fourteen thousand and nine thousand feet was very apparent: we could now enjoy sitting in the open air without feeling cold; it was as if we had passed at once from winter to spring. Although, ten days before, I had looked upon this spot as particularly barren, being destitute of vegetation and without water, yet, by comparison with the upper station which we had just left, every thing now appeared comfortable. It had been chosen, as I have said before, for a very remarkable cave, which had now become our hospital, and which was found dry, warm, and large enough to have accommodated the whole party. All the sick were immediately transported here, and placed under the superintendence of Dr. Judd and his assistants. The men here had procured a large turtle-shell from the natives, and in commemoration of their jaunt, engraved on it all their names, and nailed it to a staff which they erected at the mouth of the cave.

We passed the night with Lieutenant Budd, and although the lava floor of the tent was a rough bed, we seldom enjoyed so sound a sleep.

After arranging every thing relative to the provisions, when they should arrive, and visiting the sick with Dr. Judd, I determined to return to the top. The doctor remained for a day or two, to arrange matters with the natives at the lower station, so as to have our supplies more regularly forwarded; and also for the transportation of Longley to the ship. Taking with me James G. Clarke, a seaman, I again started for the summit, heavily laden with provisions. Longley was found better, and some of the men able to move about; and in order to prevent any accident by losing the direction, small flags were placed, as we went up, within sight of each other. We reached the observatory at the terminal crater at four o'clock, after a hard walk of six hours. We had now three stations, viz.: the Recruiting Station, Lieutenant Alden's, and the Flag Station, under the sergeant of marines. These made it a more easy task to get the loads up, although it would require a longer time.

I found they had built some part of the wall around our encampment on the summit, and being apprehensive that we were again to have bad weather, we all joined to secure the tents more effectually against the anticipated storm.

The cold, this day, to our feelings was intense, although the temperature was not lower than 26°. All our exertions in carrying stone for the wall, and violent exercise could not keep us warm. Dr. Pickering came in, towards dark, half frozen, having made the circuit of the three craters, which had occupied him nearly all day. The stream of the last eruption, some sixty years since, was from the north crater.

The two chronometers, with the pendulum clock, and some of the pendulum apparatus, had reached the top during the day; and I was rejoiced to find, on examination and comparison with the one I had, that no difference of rate had yet taken place.

We found the experiment of enclosing the camp in with a stone wall to succeed admirably, protecting us very much from the southwest wind. The temperature during the night fell to 17°.

On the 28th the day dawned with fine weather. At sunrise the effect of refraction was very similar to that before described. I was again struck with the apparent smallness of the diameter of the sun when seen in the horizon. The day continued beautifully clear, with a very strong wind from the westward. We were employed in taking observations, and the transit was set firmly, to get the passage of the stars: a wall was also built around the observatory, to protect it from the wind.

Finding there was no longer any necessity for the Flag Station to be continued, I ordered the sergeant and party up to Pendulum Peak, and directed Lieutenant Alden to remove to the Recruiting Station, and that Lieutenant Budd should join me at the summit. This arrangement became necessary, as the men would now unavoidably be exposed to the cold, and had recruited so much that they could make the trip between the two stations during the day, with loads, sleeping at the upper or lower station. Dr. Pickering made a trip to-day into the crater on the west side, which he found no easy task. He brought back several specimens of lava. The night was clear, but very cold.

On the 29th we were busy putting up the pendulum apparatus. A short time after noon, Dr. Judd again joined us with the joyful news that the party from the ship had arrived, with sixty days' provisions for as many men. I now felt that through our own perseverance we should succeed in obtaining our wishes, for with this supply we could remain sufficiently long to effect my object in visiting the mountain.

Dr. Pickering left us to descend the mountain, with the intention of ascending that of Mauna Kea with Mr. Brackenridge. The day was much warmer than we had felt it since reaching the summit.

The fine weather enabled us to build the wall to enclose the whole encampment, put up the houses and tents, and attend to the observations. In a note from Lieutenant Alden, he informed me that not more than half the men had shoes, and not more than that number were fit for duty, partly on that account and lameness, together with mountain-sickness. A supply of shoes, and sandals of raw hide, had been sent for, as the men had already worn out two pairs. It was exceedingly provoking to learn that there was much delay in getting these articles and the provisions from the ships; which arose, as I was informed by letter, in consequence of the refusal of the Rev. Mr. Coan to allow the natives to set out early on Sunday morning: he required the officer to state that he believed our necessities were urgent before he would consent to the natives going.

The temperature in the shade at noon was 47°; in the sun, 70°; and at night it again fell to 20°.

On the 30th we had another delightful day, and improved it to the best of our ability, by numerous observations.

The articles from below were now continually arriving. We took advantage of the fine weather to make an excursion to the northeast, for the purpose of seeing if I could effect a communication with the ship by simultaneous signals; after walking for about two hours, we found that no view down the mountain-side could be had, as the top of Mauna Loa was an extensive flattened dome, falling very gradually on its northern and eastern sides.

I therefore gave up this attempt, contenting myself with the determination of the meridian distance by three chronometers.

In returning, Dr. Judd and myself passed along the edge of the northeast crater, where we found, in a small cave that had been thrown up, a beautiful specimen of lava, the colour of the red oxide of iron. There was also some water in the cave.

At night, on our return, we had a visit from the old guide, Keaweehu, the bird-catcher, who gave us the name of the terminal crater, as Moku-a-weo-weo, and of that south of it as Pohakuohanalei. According to his statement, Moku-a-weo-weo emitted fire not long after Cook's visit, and again five years since, on the north side. When talking, the old man's face and appearance were so peculiar, that while he was in conversation with Dr. Judd, I thought it worth while to obtain a camera lucida sketch of him, as he sat wrapped in his tapa.

KEAWEEHU.

Treble, the armourer, succeeded in mending the bar of the pendulum frame, and rendered it as good as it was originally.

The thermometer stood at noon, in the sun, at 92°; in the shade, at 55°; and at night it fell to 13°.

The 31st was another fine day, and we continued to receive provisions, wood, &c., from below, until we were well supplied. This enabled me to issue the full ration. We were also gladdened with letters from Honolulu, and news from the ship. They had experienced at Honolulu, on the nights of the 23d and 24th, a very heavy storm from the southwest, simultaneously with the one that annoyed us on the mountain. A greater degree of cold was experienced there than they had had for years. At Hilo, during this time, very light variable winds and calms prevailed.

We were employed this day in erecting the pendulum-house, over which was placed a thick hair-cloth covering, and outside of all, a No. 2 canvass tent, surrounding the whole house, and enclosing a stratum of air. On the outer side a wall was built up to the eaves of the house, and all the cords drawn tightly through it.

It was with some difficulty that any level spot was found sufficiently large to place even the pendulum-frame, and we were obliged to cut away with our axes and chisels, a portion of the lava that was uneven, until a suitable place was made.

The temperature at night was 17°; the weather clear and cold.

On the 1st of January, 1841, we were still erecting the pendulum-houses, and building stone walls. Dr. Judd, the sergeant, and Brooks, descended into the crater: they made the descent on the east bank among large blocks of lava, and reached the bottom in about an hour. There they were surrounded by huge clinkers, and ridges running generally north and south in lines across the crater; between these was the pahoihoi, or smooth lava. They passed over these obstructions to the southwest, and found in places many salts, among which were sulphate of soda, and sulphate of lime. Four-fifths of the way across was a hill, two hundred feet high, composed of scoria and pumice, with fissures emitting sulphurous acid gas. To the west was a plain full of cracks and fissures, all emitting more or less steam and gas.

They found the west wall perpendicular: its lower strata were composed of a gray basalt. For three-fourths of the distance up, it had a dingy yellow colour. Above this, there are a number of thin layers, apparently dipping to the southwest, with the slope of the mountain.

They also visited many steam-cracks on the northeast side, from which fumes of sulphurous acid gas were emitted; no hydrogen was found in the gas, which extinguished flame without producing explosion.

Specimens of sulphate of lime, carbonate of magnesia, sulphate of ammonia, and carbonate of lime, were found in beautiful crystals by Dr. Judd, but it was found difficult to preserve any of them in a separate form, as they were all intermingled in their formation.

Half-past two o'clock having arrived, Dr. Judd began his return to the bank where he had descended, and reached it after walking an hour and a half; it required another hour to ascend. When they returned, they appeared exhausted with their day's trip: overloaded as they were with specimens, the ascent was more arduous.

This evening, at sunset, we had a beautiful appearance of the shadow of the mountain, dome-shaped, projected on the eastern sky: the colour of a light amethyst at the edges, increasing in intensity to a dark purple in the centre; it was as distinct as possible, and the vast dome seemed to rest on the distant horizon. The night was clear, with moonlight, the effect of which on the scene was beautiful: the clouds floating below us, with the horizon above them, reminded us of the icebergs and ice-fields of the Antarctic: the temperature lent its aid to the deception.

Lieutenant Budd, with a party, joined me this day, bringing with him the transit-level, from the ship. Towards evening I had another attack of mountain-sickness, with much tendency of blood to the head. My steward was also attacked with severity, and several of the men; but, by aid of the remedies given us by Dr. Judd, the next morning found us all much relieved.

The dew-point could not be obtained with Pouillet's hygrometer (a capsule). Whenever this was the case, electricity was found to be easily excited: on moving any articles of dress from the person, it would develope itself in sparks. On examination, it was found that our pulses varied during the day, and were very easily excited. Dr. Judd's fluctuated from sixty to one hundred beats, Mr. Eld's from eighty-four to one hundred and twenty, and mine from seventy-two to one hundred and eight.

The night was favourable for observations, and we succeeded in making many. The wind was from the northeast. The thermometer at sunrise was at 20°. The sun did not rise clear, as I was in hopes it would have done, so as to afford me an opportunity of again seeing the refraction, and measuring it.

The 3d proved fine, and the pendulum-clock and apparatus being arranged and adjusted, the clock was put in motion, and a comparison made with the three chronometers every two hours.

It being Sunday, and a fine day, the men were allowed to wander about the crater; and some descended into it, bringing back many fine specimens of lava.

During our stay on the summit, we took much pleasure and interest in watching the various movements of the clouds; this day in particular they attracted our attention; the whole island beneath us was covered with a dense white mass, in the centre of which was the cloud of the volcano rising like an immense dome. All was motionless, until the hour arrived when the sea-breeze set in from the different sides of the island: a motion was then seen in the clouds at the opposite extremities, both of which seemed apparently moving towards the same centre, in undulations, until they became quite compact, and so contracted in space as to enable us to see a well-defined horizon; at the same time there was a wind from the mountain, at right angles, that was affecting the mass, and driving it asunder in the opposite direction. The play of these masses was at times in circular orbits, as they became influenced alternately by the different forces, until the whole was passing to and from the centre in every direction, assuming every variety of form, shape, and motion.

On other days clouds would approach us from the southwest. when we had a strong northeast trade-wind blowing, coming up with their cumulous front, reaching the height of about eight thousand feet, spreading horizontally, and then dissipating. At times they would be seen lying over the island in large horizontal sheets, as white as the purest snow, with a sky above of the deepest azure blue that fancy can depict. I saw nothing in it approaching to blackness, at any time.

The light from the volcano of Kilauea was exceedingly brilliant this night. The temperature fell to 17°.

On the 4th, Lieutenant Budd began the survey of the summit of the mountain (including the four craters), by measuring bases and planting signals. On the return of the parties, they reported that an eruption had taken place on the southwest side of the mountain. This was almost too good news to be true, for to see this wonderful crater in action was scarcely to be expected. Early on the following morning, a party was sent to examine the spot designated.

Towards evening I began the pendulum observations, and found the temperature of the pendulum-house variable, for which I could not account, as the outward air seemed to be excluded, and yet it varied as though it were exposed. At daylight the thermometer had risen to 20°.

Dr. Judd returned towards evening from the southwest side of the mountain, but found no signs of an eruption; thus it turned out, as I had anticipated, a false alarm; it served, however, to give us more excitement.

Several large fissures were discovered on this jaunt, and a small crater lying south of the large one. The report of the eruption in all probability originated from the southwest clouds being illuminated by the setting sun, a phenomenon which was afterwards often observed.

This party also descended into the crater of Pohakuohanalei, into which a stream of lava had run from that of Moku-a-weo-weo. This stream looked like a cascade formed of iron, the fluid having been transfixed before it reached the bottom. The crater is of an oval shape; it is stratified, and seventy layers of basaltic rock were counted, which have evidently been deposited by the overflow of the large crater: the guides, however, from knowledge derived from their traditions, told us it was the oldest crater, though appearances led us to a contrary conclusion.

On the bottom of this crater the lava was found much pulverized. Dr. Judd, finding a place with moist and rich earth, planted two orange-seeds, which, should they take root and grow, may astonish some future visiter. On their return they passed a hillock of recent cinders, which was open at the top. On entering it, they found themselves in a beautiful cavern or hall, studded with stalactites of brown lava, and whitened about the sides and bottom with sulphate of soda, in a state of efflorescence. A considerable quantity of this was taken up. It had been found in other places, but only in small quantities.

On the 5th, a large quantity of dry grass arrived from below, which I had sent for to thatch the house, in order to preserve a more equable temperature. This we used to stuff between the house and tent. I also laid a thick covering of the same material over the lava floor, as I thought it probable there might be some hollow tunnel or cavern beneath the house. All these precautions soon produced the desired effect by giving an equable temperature, although the outward variation still continued from 17° to 50° during the twenty-four hours.

As we were desirous of having a little fire, for the purpose of warming our fingers when calculating or writing, we took one of the calabashes, and by filling it with stones, converting it into a "brasero." This answered our purpose admirably, except that we were occasionally annoyed with smoke. Dr. Judd, not content with this rude contrivance, invented a fire-place and chimney, which he built in one corner of the tent, and which occupied all the spare room we had. We thus were enabled to enjoy the comforts of what, on the top of Mauna Loa, we called a good fire. How good it was, may be understood when it is stated, that our allowance of fuel was three sticks of wood per day; and that water froze within a couple of feet of the fire, when it was giving out the most heat.

In a former gale, one of our three barometers had been blown over, spilling the mercury, though not injuring the tube; being prepared for such accidents, I filled the tube again and took a careful comparison with the others, in the event of farther accidents.

The temperature of boiling water was again tried, and found 187°; the barometer stood at 18·384 in. No dew-point could be obtained. Electricity was developed in large sparks.

Brooks, who was employed in putting up signals around the old crater with Lieutenant Budd, brought in some fine specimens from the north crater; among them were some having almost the appearance of pure glass. He had found a small piece of fern in the rich earth of the crater, which was regarded by us all as a great curiosity.

The afternoon of the 6th, the atmosphere was heavy, causing much refraction; there was little air stirring at the time.

The 7th, we continued our observations; the temperature of the pendulum-house now continued equable at 40°.

On the 8th, we had a change to cold, raw, and disagreeable weather; snow began to fall, and a kona or southwest gale set in; the temperature fell soon to 20°.

At 10 P. M., I was unable to proceed with the pendulum observations; for such was the fury of the storm, that the journeyman-clock, with a loud beat, although within three feet of my ear, could not be heard. I was indeed apprehensive that the whole tent, house, and apparatus would be blown over and destroyed. The barometer indicated but little change. This storm continued until sunrise of the 9th, when it moderated. I have seldom experienced so strong a wind; it blew over and broke one of the barometers, although its legs had been guarded carefully by large stones; and the wind was so violent at times, that it was with difficulty we could keep our footing. We suffered the loss of three thermometers, by the frame being blown down on which they were fastened.

Towards morning, the wind having sufficiently lulled, the pendulum observations were continued.

Being desirous of obtaining the depth of the crater, we prepared a long line with a plummet; and Mr. Eld was also despatched below, to get altitude angles with a base on both sides for the elevation of the banks. He set out at ten o'clock, with the sergeant and two men, and passed down under the eastern bank,—the same route Dr. Judd had taken. He described it as so steep, as to threaten them, by a false step or the loosening of a stone, with being precipitated below. They reached the bottom in less than an hour: the plummet had been lowered, which Mr. Eld went in search of, but it had only reached about a third of the distance down, and on signal being made, it was lowered still further; but the cord soon chafed through, and the plummet, which was the top of the ship's maul, disappeared.

Mr. Eld obtained his base and the angles of elevation of the east bank, and then went over to the west side. The passage across the bottom of the crater he found much as Dr. Judd had described it; the ridges, from ten to fifty feet in height, alternating with deep chasms and smooth pahoihoi. They were two hours crossing over, and in imminent danger every moment of being killed by the falling of fragments of rocks, or of being precipitated down the fissures, that were crossed every few yards by jumping on their fragile edges, and threatening himself and men on breaking through, with one of the most horrible deaths. Some of the steam-cracks they were able to approach, but others were entirely too dangerous to admit of such proximity.

After finishing the observations, Mr. Eld directed his steps towards the bank or wall, where he had been told it was easier to pass along; but he found the path quite as rugged; and by the time they reached the place of ascent, they were all nearly unable to proceed from fatigue.

The prospect of remaining the coming night in the cold, was sufficient to spur them on to overcome the ascent. They were all completely exhausted when they reached the camp at sunset.

The banks of the crater were found, by Mr. Eld's observations, to be as follows:

| | |
|---|---|
| West bank, . . . . . . . . . . | 784 feet. |
| East " . . . . . . . . . . | 470 " |

On the 10th of January, we had snow again. The temperature rose to 32°: the snow melted fast, causing excessive dampness within and without, while other discomforts that may be imagined prevailed. Towards night, it cleared off, the wind hauling round to the westward. The temperature fell quickly to 16°, when for a few hours it blew a perfect hurricane. I thought the pendulum-house in great danger: it rocked to and fro, appearing at times to be lifted from the ground, and several of its staples were drawn out. Not a person in the camp could sleep until towards daylight, when the gale began to abate.

These gales reminded me strongly of those we experienced among the ice on the Antarctic cruise. I regretted I had no anemometer, to ascertain the direction, changes and force of the wind. It is remarkable that these severe gales all occurred during the night, beginning in the evening and continuing until the next morning. I attempted to ascertain the velocity of the clouds by the rate of progress of their shadow across the crater, marking the time of the passage; and the greatest velocity in many trials of those from the southwest, was about forty-seven miles an hour. It was, however, observed, in these experiments, that the swiftness of the clouds seemed to increase in passing over the apex of the cone or crater. Whether this was the effect of being able to compare their movements more nearly with fixed objects, I am not prepared to say; but I am inclined to believe that in some cases, as they touched the mountain-side, they were forced upwards and over the summit, with a much greater velocity for the first half of the crater than the last. The shortness of the time that elapsed in passing the diameter of the crater, little more than a mile, precludes the supposition that they had changed their form sufficiently to alter the figure of their shadow. The wind was blowing what would be termed a strong gale, when the experiments were made.

On the 11th, having the eprouvette mortar with me, I tried some experiments on the velocity of sound, comparing it with our measured bases and the sides of the triangles: these gave results as satisfactory as those usually obtained below. The great difference was in the sound itself: the report of the gun producing a kind of hissing noise. The eprouvette was of iron, and was fired with a plug driven into it very tightly after it was loaded. When fired near the level of the sea, it was necessary to close the ears when standing within twenty feet of it. The sound could be heard six miles, and the report was equal to that of a large gun. But on the summit we stood close to it without any precaution whatever, and the noise it there made was more like that of a squib. Although the reports of the eprouvette were heard at the opposite side of the crater distinctly, yet the sound was a faint one; but at the Recruiting Station, then occupied by Lieutenant Alden, about eight miles distant, the sound was loud and reverberatory.

This night we finished the pendulum, and all the dip and intensity observations, except those with Gauss's needle.

The temperature at night stood at 20°.

On the 12th, I joined Lieutenant Budd in the triangulation, and for this purpose made the circuit of the crater to occupy the western stations. The day was fine, and the lava covered with about five inches of snow. Having prepared our boots with hide sandals, Dr. Judd and myself set off at an early hour towards the south, and whilst Lieutenant Budd took the north side, we passed round Pohakuohanalei. In the vicinity of that crater are many fissures, of great depth, and with a fresh appearance, as though they had been in action only the day before. The matter which had been thrown out from them appeared to be pure obsidian, of a dark and shining colour, and very brittle. Beyond it was an extensive bed or stream of pahoihoi. The small crater to the south of Pohakuohanalei, is but a small pit, in comparison with the others, and does not appear to have ever discharged lava over its edge. It is of the kind that I shall hereafter designate as a pit-crater, and will be described when I come to speak of those that are near the new eruption.

In traversing these fissures we were in great danger, and experienced much difficulty in walking on the recent stream that seemed to have flowed from them, for the snow which covered the lava concealed the new and weak places. The idea of being precipitated down a chasm of one hundred and fifty or two hundred feet deep, was by no means agreeable. Our blood was occasionally stirred by breaking through with one leg or both; and I shall not soon forget my own descent into a vapour or steam bath, which on trial was found to be 169° of temperature, although only a few moments passed before I was out of danger. The lava at the mouth of some of the chasms, appeared as though it had been thrown up and plastered on the edges in clots, which seemed of the consistency of tar or melted sealing-wax, of various colours, the most predominant a dark brown. One of these fissures we designated as the Great Steam-crack: it led from the top of the mountain a long distance down its sides, towards the south, and from it vapour was constantly issuing. On throwing a piece of lava down it, a sound was produced as if many pieces had been flung into an ordinary chasm, and the reverberation continued so long, as to lead to the belief that the mountain was rent to its very base.

Although we had scarcely accomplished one-third of the circuit, our sandals began to give way, and we were obliged to stop to mend them, in order to prevent ourselves from becoming barefoot before making the circuit and reaching the encampment. While Dr. Judd undertook the repairs, I made a sketch of the crater, looking into it from the south, with Mauna Kea in the distance, while all around us the lava was piled in huge blocks, confusedly thrown together by some mighty force.

This crater differs in several particulars from that of Kilauea. It has no black ledge, and has a great quantity of fallen debris around its walls. There is no boiling lake, although the evidences of fire, as has already been stated, are not wanting, and its outer walls are more broken down.

The glare from the snow in the strong sunlight had now become exceedingly uncomfortable to the eyes, which was felt by several who were in company with us.

About 1 P. M., we were at a station on the southwest side, from which I obtained the distance, by sound, from the observatory.

From this station we had a distant view of the hills on the coast.

After getting my observations with the theodolite, we proceeded on our way round, frequently passing numbers of large boulders of a grayish basalt, that were lying on the lava stream, and had apparently been ejected from the crater.

About two o'clock we reached the western side of the dome of Mauna Loa, which is here much more precipitous than it is on the east. On the western side there was no more than a slight sprinkling of snow, that scarcely covered the black lava. The weather was still and calm, and a deathlike stillness prevailed, which I dreaded to break, even by making a remark to my companions upon the splendour of the scene before us. The sight was surpassingly grand. In the distance, the island of Maui emerged from and broke the line of the deep-blue horizon, while its lower side was dimmed by a whitish haze, that seemed to unite it to the island of Hawaii. The same haze enveloped the hills of Kohala on our right, and the western extremity of Hawaii. Nearer to us was Hualalai, the third great mountain of Hawaii, up whose sides a compact mass of white fleecy clouds was impelled by the sea-breeze. To our right rose in bold relief Mauna Kea, covered with its snowy mantle; and at our feet was spread out, between the three great mountains, the black plain of lava, overhung by a dusky pall of clouds. All these features were so blended into each other by the mist, as to exhibit a tone of harmony that could hardly be conceived, considering the variety of the forms, characters, and distances of the objects, and which seemed to blend earth, sea, and sky into one. I can never hope again to witness so sublime a scene, to gaze on which excited such feelings that I felt relieved when I turned from it to engage in the duties that had called me to the spot.

It was not without some nervous excitement that I placed my instrument on the highest point of Mauna Loa, within a few feet of its crater, and turned it upon Mauna Kea, to measure the difference in the height of these twin giants of the Pacific.

The very idea of standing on the summit of one of the highest peaks in the midst of this vast ocean, in close proximity to a precipice of profound depth, overhanging an immense crater "outrageous as a sea," with molten rock, would have been exciting even to a strong man; but the sensation was overpowering to one already exhausted by breathing the rarefied air, and toiling over the lava which this huge cauldron must have vomited forth in quantities sufficient to form a dome sixty miles in diameter, and nearly three miles in height.

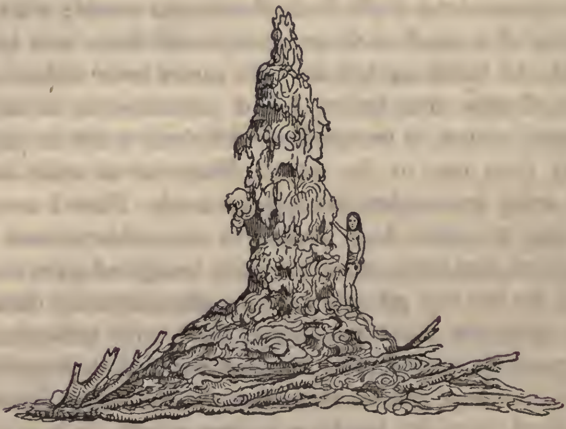
I was still in doubt which mountain I should find the highest; for although previous measurements had given it in favour of Mauna Kea, yet I had found Mauna Loa about three hundred feet higher than it had been reported to be. Double the zenith angle was soon obtained, and decided it in favour of Mauna Kea, and subsequent calculations gave one cone of it as one hundred and ninety-three feet above the place where I stood. Although twin mountains, they are of very different character. Mauna Kea is a vast mound topped with cones, nine in number, whilst Mauna Loa is a smooth dome. On the former the frosts of winter prevail, while the latter has internal fires, and occasionally vomits forth its lava to the very point where the other begins to rise, covering its broad flanks with layers of rocks.

We had not much time to spare, and as soon as Lieutenant Budd joined me, we continued our route, in order to reach the encampment before dark, for otherwise we should be forced to pass the night among the blocks of lava. Our sandals of hide were worn through, and our shoes somewhat injured, so that it became a source of anxiety to us whether they would last long enough for us to reach our destination.

With rapid steps we passed along the north bank of the crater, descending on our hands and knees over some large blocks, where the wall had been thrown down as it were by earthquakes, filling chasms near it several hundred feet in depth. The way was difficult and dangerous, requiring the utmost caution in proceeding along the narrow edge that separated the north from the central crater; a false step, or the detaching of a small rock or stone, would have sent hundreds of the huge blocks headlong below. We passed over without accident; and blocks of stone that before I had conceived to be large, diminished to small stones, in comparison with those we were passing over by jumping from one to the other. Many of us sank down from exhaustion when we reached the opposite bank. How I accomplished the remaining two miles I am unable to say, unless it were by virtue of the stimulant that the prospect of being benighted gave me. When we arrived, the sun had set, and we were all completely exhausted.

On our return we found the village filled with half-naked natives, who had come up, lured by the fine weather, and in hopes of getting their loads to return immediately, for the following day had been originally fixed upon for breaking up our camp. It was impossible to allow them to return: the night had closed in, and it became necessary to accommodate some forty natives with lodging and comforts. Although I was worn down, this was too strong a case to go unattended to; and the only place where I could stow them was the pendulum-house. I therefore took down and packed away the clock and apparatus, and gave them the house to lodge in. With the dry grass on its floor and roof, and plenty to eat, they made themselves quite comfortable.

During the time I was thus engaged, I began to feel as if cobwebs had passed over my face and eyes, and found the same feeling prevailed with two or three of the men who had accompanied me during the day. To this feeling succeeded excessive irritation and inflammation of the eyes and eyelids, brought on by exposure to the strong glare from the snow. Dr. Judd was kind enough to make various applications, but none of these produced any effect, and I felt forcibly the horror of probable blindness; indeed I was so for the time, and notwithstanding all my fatigues, I passed a sleepless night in great pain. The night was stormy: the thermometer fell to 17°. I, however, determined to leave the station in the morning, if I had to be led down the mountain, which I thought very probable. One consolation, however, remained: my physical energies had not given way until every part of the objects of my ascent of Mauna Loa had been fully accomplished.



LAVA JET OF THE CRATER.

# CHAPTER V.

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## CHAPTER V.

### KILAUEA.

### 1841.

When day broke, on the 13th January, all was bustle on the summit of Mauna Loa. Every one was engaged in taking down and packing up the instruments and equipage, loaded with which the native labourers scampered off. Some of them, indeed, unable to bear the cold any longer, and hoping to obtain loads afterwards, withdrew without burdens.

At nine o'clock, Dr. Judd, myself, and six of the crew of the Vincennes, bade adieu to the walled village we had built. The men showed their delight at quitting this barren and desolate spot by three hearty cheers. It was no little gratification to me to be able to take my departure, after having successfully accomplished all the duties assigned to me here, without any serious mishap, except in the case of Longley, although all the party had been more or less sufferers from the mountain-sickness.

Dr. Judd remarked, in relation to the manner in which the natives were attacked by this disease, that the general symptoms were colic, vomiting, and diarrhœa; that one or two were affected with spitting of blood, and a few had fever and ague. A yellowness of skin, with headache and giddiness, were experienced by nearly all the party, while several were seized with asthma and rheumatism, and a few had scorbutic symptoms.

Dr. Judd always found that great hunger was felt, although the ability to eat at meals was wanting.

A variableness of the pulse during the day, which the least excitement would cause to rise, was experienced by all, the variation amounting to from thirty to forty beats.

During the whole time that we were above the height of nine thousand feet, there were only one or two days in which the electrical excitement of the atmosphere was not apparent, and those were exceedingly damp; the electroscope, in fact, was in constant action during our stay.

Previous to our departure, I had the words "Pendulum Peak, January 1841," cut in the lava within our village. J. G. Clarke, one of the seamen belonging to the Vincennes, who made these marks came to me and desired, on the part of the men, that I would allow them to add to it U. S. Ex. Ex., in order that there might be no mistake as to who had been there; to this I readily gave my consent. This was the same man who had been wounded at Malolo, and one of the best and most useful we had with us; in himself he united many employments, as a seamen, drummer, fifer, cook, and stone-cutter; knew a little of physic, sang a good sailor's song, and was withal a poet!

Lieutenant Budd and Mr. Eld were left, with a party of men, to repeat a few observations with the intensity needles, and to obtain angles for a distant position.

The wind, when we set out, blew very strong from the southwest, and flurries of snow were passing by every few minutes. In two hours we reached the Recruiting Station, where we found Lieutenant Alden and many Kanakas on their way up. After a rest of two hours, and obtaining new shoes, we went on and reached the Sunday Station at five o'clock, scarcely able to drag one foot after the other. Here we were soon enveloped in mist, and found the soft and delightful temperature of spring. I cannot venture to describe the effect this produced on us after our three weeks' sojourn on the cold, bleak, and barren summit. I felt for the first time in my life fairly broken down, and almost past the soothing effects of the loomi-loomi, which the natives at once offered as a relief to me: it may be called a lesser shampooing, and consists, as practised in the Sandwich Islands, of a gentle kneading of the limbs, which has a great tendency to restore the circulation, and relax the muscles and joints. The natives use it for rheumatism, headache, and all kinds of pains. It requires some skill to do it well, and there is the greatest difference in the performance between persons who are practised in it and those who are not. The chiefs generally have two persons employed at the same time. We soon had a good fire made before our Hawaiian hut; its warmth, together with an excellent supper, made us comfortable, and we were soon asleep on the dried grass.

The next morning, when I awoke, all nature seemed to be alive: the songs of the birds, the cheerful voices of the natives, were delightful; the green foliage gave every thing an air of spring. We were so stiff as scarcely to be able to move, which was all that now remained to remind us of the scenes we had left, and the fatigues we had undergone. When we again set off, it was amusing to see the whole party moving along with their stiff and aching limbs, trying to appear but little fatigued. At twelve o'clock we reached the station where he had abandoned our chairs, and I never was more relieved than when I reached mine, for I was quite unable to walk any further. Here, also, we were met by the natives with fruit; indeed, every step we took seemed to be restoring us to the comforts of life. Late in the afternoon of the 14th we reached the crater of Kilauea, after an absence of twenty-eight days, eight of which had been consumed in travelling, six in going up and two in returning from the summit.

The dome of Mauna Loa looked full as beautiful to the eye as it did on our way up, but the experience we had had of its surface, and the difficulties we had encountered, were not so soon to be forgotten, and arrayed it in different colours to the mind. On passing down the last strip of Mauna Loa, we came to a spot which had apparently been a crater of large size. What we supposed to have been the bottom of it, is considerably below the extensive plain which surrounds Kilauea, and between them is a broad and deep fissure, running in a northeast direction, towards the sulphur-bank on the north side of the volcano of Kilauea, which terminates in a precipice from fifty to two hundred feet in depth, showing that the whole plain around Kilauea must have sunk at some remote period.

Wishing to be more protected from the cold wind that draws from Mauna Kea (on the north), we passed over to what I have called Waldron's Ledge (after Purser Waldron of the Vincennes), which is the usual and by far the most commodious point to encamp at, besides offering one of the most beautiful views of the volcano.

The day on which we left Lieutenant Budd and Mr. Eld at the crater, proved very stormy, and the night one of the severest they had experienced, being extremely cold, and the wind approaching a hurricane. The wind, according to these officers, came howling over the crater, and when the blast struck their tent, it resembled the discharge of light artillery, making the canvass quiver as if it would be rent in ten thousand shreds. After each blast a deathlike stillness followed, which served to make the roar of the succeeding one more awful. One of the tents belonging to the men was blown down, but they remained under it, as on a former occasion. In the morning, it was found that many of the panels of the pendulum-house had been hurled several hundred feet, and some of them even broken into splinters. It blew so heavily throughout the day, that these officers were unable to accomplish the remaining duties.

The 15th proved a delightful day, and they succeeded at an early hour, in accomplishing the work which remained. Sixty or seventy Kanakas made their appearance, who were despatched with the remaining articles. They recollected the clock-case, which had given Mr. Eld so much trouble in ascending, but he now took measures to secure its going in advance, by sending it off first, borne by eight men. Some of these, however, absconded the moment they got out of his sight. It was at last placed under the special care of a chief, and gave Mr. Eld no farther trouble.

Previous to leaving the crater, Lieutenant Budd stationed a man at the flag-staff; three cheers were then given, and the flag hauled down. The walls were left standing, resembling those of a small fortress. There was not one of the party but felt a great satisfaction in leaving this dreary spot, where they had all suffered much from fatigue, cold, and hunger.

When about departing, these officers observed a Kanaka who, from his taking a wrong direction, appeared to be somewhat bewildered; but on being called, he gladly took the last remaining load, consisting of some camp equipage and mess utensils, with some provisions. They then left the summit and descended as far as the Recruiting Station, where they stayed over-night. By nightfall, all the articles, including the heavy clock-case, had arrived, but no one had noticed the Kanaka with the calabashes, or thought of him, except to suppose that he would come down in due season, or had actually gone on. Nothing, however, was ever heard of this man; and although diligent search was made for him for some days after by the natives, yet it resulted in no trace of him, or of any thing that could lead to a knowledge of his actual fate. It is supposed that he must have lost the track, and probably suffered a lingering death. With the exception of the misfortune of poor Longley, this was the only serious accident that occurred during our whole trip. Langley is a confirmed invalid, and as such has been allowed a pension by the government.

This party reached the volcano on the 17th. I had by that time spent a few days in making a survey of it, obtaining specimens, and examining its whole interior. On the day after our arrival, although we were not able to make much exertion, we visited the north sulphur-banks, and on passing to them by the plain, we found great quantities of a species of whortleberry, called by the natives ohelas, of an agreeable sweetish taste, and as large as cranberries.

The sulphur-bank is about one hundred and fifty yards in length by about forty wide, and is separated from the perpendicular basaltic rocks that bound the plain, by a chasm from which steam issues in quantities. By descending into it as far as the heat would permit, we obtained some beautiful crystallized masses of sulphur, which we found in small cavities. In some parts of the chasm, the temperature was at the boiling point. The bank seemed to be formed by the decomposition of the rock, through the agency of heat and water. Without the chasm, the bank was formed of an unctuous, red and blue clay, or rather marl, so nearly allied to a pigment, that I understood it had been used as a wash or paint by the missionaries. The steam from below seemed to be penetrating and saturating the whole bank. We returned to our encampment well laden with specimens.

During the day I had signals put up on the points surrounding the crater, and made every preparation for surveying it the next day. Dr. Judd volunteered to go down into the crater, with a party of natives, to endeavour to obtain some gases with the apparatus we had brought from the ship, (which we disinterred here,) and at the same time to procure some liquid lava, by dipping it up from the boiling cauldron. For this purpose we thought of many contrivances, but at last fixed upon one of the frying-pans, as the article best calculated to effect the object when lashed to a long pole.

On the 16th, Dr. Judd and I set out on our several tasks. The various instruments with which we were provided caused us much amusement; but I was somewhat uneasy and doubtful relative to his descent and prospect of obtaining the objects of his search, for I knew the state of the crater; but the doctor, always enthusiastic, parted from me in high spirits, with his party of natives, after receiving many cautions not to be too venturesome. I waited to see him pass over the edge of the bank, and then went to my work of triangulation.

The wind was strong from the northeast, and though clear, the weather was unpleasant. After measuring my base, I visited all the stations around the crater in their turn. The banks, like those on the south side, are formed of sand and pumice, of which the former is most abundant, and occurs in strata, of from six to eight inches in depth. On the southwest side of the crater we did not find the gases so perceptible or suffocating as I had been led to expect from the natives' account, who urged numerous objections in order to prevent my going there, for they imagined that they would have a difficult journey. They told many stories of persons falling through the sand: this I could not understand until one of my men suddenly sunk in up to his middle, which at once caused us to make a halt, and examine the ground. The cause of this accident I found to be, that the sand and pumice had accumulated in the Great Steam-crack, that leads off in the direction of Papapala (nearly south), and had filled it almost to a level with the rest of the surface. It may easily be conceived how this could be done by these materials, possessing as they do somewhat of an adhesive quality, resulting partly from their glassy points and fibres. In treading on these places, the person immediately falls down, which prevents him from sinking farther. Such was the terror that came over him, that he crawled with great rapidity to a place where he could find a point of safety or firmer ground, to rise upon. The natives, in passing over these sands, were always desirous of feeling their way with a stick.

What is the most remarkable circumstance about this volcano is, that a short distance from it there is no appearance of such a phenomenon being near, and one cannot help expressing much astonishment on approaching the edge, to see it so close at hand. From every part of the bank, it is a wonderful sight; but the view from the northern side to me was the finest, as the whole of this mighty laboratory of nature is there embraced in one view. The oldest native traditions record it to have been in constant operation.

On the southeast side there are some loose blocks of lava, that have somewhat the appearance of having been ejected, but they are few in number. Stones were more numerous on this side, although they would not perhaps warrant the opinion that there has been an eruption of stones. There is but little doubt that the sand is thrown out at times in considerable quantities, and scattered around. This is the only way in which the plain surrounding the crater could be covered as it has been.

On my route I passed a third crater, the name of which I could not learn: the natives who were with me seemed to know little about it. There were several cones of coloured scoria, particularly a red one of large size within it. The dimensions of this crater were found to be three thousand feet in diameter, and about three hundred feet in depth. Finding that I had no time to spare, I was obliged to forego the idea of descending into it.

There is a tradition which relates that a whole army was once buried by the sand and ashes, while they were marching by, and that the shower was so great as to produce almost total darkness. This sand, I would here remark, bears a strong resemblance to that of the sand-hills caused by the late eruption at Nanavalie, which will be hereafter spoken of.

During the month that intervened between our visits, the black ledge had undergone some change. This was ascertained by a comparison of the outlines of the lower pit, bounded by the ledge, on the two occasions. A large projecting point on the east side of the black ledge had disappeared. The lakes of fire continued nearly the same, though the small one in the larger area seemed less active.

At about three o'clock, when I had reached the eastern edge of Lua Pele, all the party who were with me remarked a large column of smoke rising from that crater, and we, in consequence, ran towards the bank; but the sulphur-banks concealed the bottom of the crater and black ledge from our view. It immediately occurred to me, that an outbreak had taken place, by which the whole bottom of the lower crater would be overflowed, and that my friend, Dr. Judd, would find himself in a dangerous position, as he must at the time be near it. Not being able to reach any place where we could relieve our apprehensions, we were forced to continue our route, and shortly after descended to what is known as Lord Byron's Ledge, which lies between the two craters, Lua Pele (Pele's Pit) and Kilauea. The position of the hut occupied by Lord Byron is close to the brink of Kilauea. I noticed this place as proving that a recent eruption has taken place on the ledge. A flow of igneous matter has evidently run into both craters, and has covered the ledge with large sheets of lava. These are here and there broken through, forming a kind of funnel or bridge, from beneath which the lava has flowed, leaving the soil in places uninjured. Numbers of ferns, having a luxuriant growth, were found under these immense slabs. In examining the edge of the bank, I became satisfied of the correctness of the above opinion, as the flow over the ledge seems to have come from beneath, and to have coursed down the sides, either in broad ribands, or in streams like large cables, coiling themselves in confused layers on the black ledge. The flow into the pit seemed to be less fluid, as it did not reach the bottom, and flowed in one broad stream. Passing on, we reached the bluff bounding Waldron's Ledge, which is the highest part around the crater: it is bold and projecting, and in some places the path leads close under it, among large blocks that have fallen from it, either by the shaking of earthquakes or decomposition by time.

The annexed plate is taken from a camera lucida sketch, by Mr. Drayton; and gives an idea of the stratification of the walls around the crater.

When we ascended the bank, it became evident that the eruption had taken place at the small crater: this gave rise to much uneasiness respecting the party that had gone down. I searched with my glass in every part of the crater, but saw no one, although I was convinced that they could not have proceeded up before us. When I returned to the encampment, Dr. Judd was not to be found there, and nothing had been heard of him.

I therefore felt great relief, when in about a quarter of an hour I saw the party returning. On greeting Dr. Judd, I received from him the following account.

After he left me, he proceeded with the natives down the ravine into the crater; thence along the black ledge to its western part, where he descended by the same toilsome path that had been followed a month before. After reaching the bottom, he found a convenient steam-hole, whence a strong sulphureous gas issued; and he then arranged the apparatus for collecting it. This was found to answer the purpose, and was readily and completely absorbed by water. The gas was then collected in a phial containing red-cabbage water turned blue by lime, when it became intensely red.

Dr. Judd then sought for a place where he might dip up some of the recent and yet fluid lava, but found none sufficiently liquid for the purpose. Failing here, he proceeded towards the great fiery lake at the southern extremity of the crater. He found that the ascent towards this was rapid, because the successive flowings of the lava had formed crusts, which lapped over each other. This rock was so dark in colour, as to be almost black, and so hot as to act upon spittle just as iron, heated nearly to redness, would have done. On breaking through the outer crust, which was two or three inches thick, the mass beneath, although solid, was of a cherry-red. The pole with which the crust was pierced, took fire as it was withdrawn. It was evidently impossible to approach any nearer in this direction; for although the heat might not be so intense as to prevent walking on the crust, yet the crust itself might be too weak to bear the weight, and to break through would have been to meet a death of the most appalling kind. Dr. Judd, therefore, turned towards the west bank, on which he mounted to a higher level over stones too hot to be touched, but from which his feet were defended by stout woollen stockings and sandals of hide, worn over his shoes. When he had proceeded as far as he could in this direction, he saw at the distance of about thirty feet from him, a stream of lava running down the declivity over which he and his companions had ascended. Even this distance was too great to be reached over, and the intervening rocks had become so heated by the continual stream, that they could not be traversed.

At this time, they were very near the great lake, but could not see its surface, which was still about twenty feet higher than the spot where they stood. Jets of lava were, however, observed rising about twenty-five feet, and falling back again into the lake. Dr. Judd now despaired of gratifying his own wishes and mine, by obtaining lava in the liquid state, and ordered a retreat.

On his return, the party passed the small crater which has been spoken of; and which, by comparison with the larger one, appeared cool. Smoke and a little igneous matter were issuing from a small cone in its centre; but with this exception, a crust of solid lava covered the bottom.

On the sides of this crater, Dr. Judd saw some fine specimens of capillary glass, "Pele's hair," which he was anxious to obtain for our collection. He, therefore, by the aid of the hand of one of the natives, descended, and began to collect specimens. When fairly down, he was in danger of falling, in consequence of the narrowness of the footing; but in spite of this difficulty, his anxiety to select the best specimens enticed him onwards. While thus advancing, he saw and heard a slight movement in the lava about fifty feet from him, which was twice repeated, and curiosity led him to turn to approach the place where the motion occurred. In an instant, the crust was broken asunder by a terrific heave, and a jet of molten lava, full fifteen feet in diameter, rose to the height of about forty-five feet, with a most appalling noise. He instantly turned for the purpose of escaping; but found that he was now under a projecting ledge, which opposed his ascent, and that the place where he had descended was some feet distant. The heat was already too great to permit him to turn his face towards it, and was every moment increasing; while the violence of the throes, which shook the rock beneath his feet, augmented. Although he considered his life as lost, he did not omit the means for preserving it; but offering a mental prayer for the Divine aid, he strove, although in vain, to scale the projecting rock. While thus engaged, he called in English upon his native attendants for aid; and looking upwards, saw the friendly hand of Kalumo,—who on this fearful occasion had not abandoned his spiritual guide and friend,—extended towards him. Ere he could grasp it, the fiery jet again rose above their heads, and Kalumo shrunk back, scorched and terrified, until excited by a second appeal, he again stretched forth his hand, and seizing Dr. Judd's with a giant's grasp, their joint efforts placed him on the ledge. Another moment, and all aid would have been unavailing to save Dr. Judd from perishing in the fiery deluge.

In looking for the natives, they were seen some hundreds of yards distant, running as fast as their legs could carry them. On his calling to them, however, they returned, and brought the frying-pan and pole. By this time, about ten or fifteen minutes had elapsed; the crater was full of lava, running over at the lower or northern side, when Dr. Judd was enabled to dip up a pan of it; it was, however, too cold to take an impression, and had a crust on its top. On a second trial he was successful, and while it was red hot, he endeavoured to stamp it with a navy button, but the whole sunk by its own weight, being composed of a frothy lava, and became suddenly cold, leaving only the mark of the general shape of the button, without any distinct impression. The cake he thus obtained, (for it resembled precisely a charred pound-cake,) was added to our collections, and is now in the hall where they are deposited. This lake I have designated as Judd's Lake, and believe that few will dispute his being entitled to the honour of having it called after him. Dr. Judd now found that he had no time to lose, for the lava was flowing so rapidly to the north, that their retreat might be cut off, and the whole party be destroyed. They therefore at once took leave of the spot, and only effected their escape by running. When the danger was past, Dr. Judd began to feel some smarting at his wrists and elbows, and perceived that his shirt was a little scorched. By the time he reached the tents, and we had examined him, he was found to be severely burned on each wrist, in spots of the size of a dollar, and also on his elbows, and wherever his shirt had touched his skin. Kalumo's whole face was one blister, particularly that side which had been most exposed to the fire.

The crater had been previously measured by Dr. Judd, and was found to be thirty-eight feet deep by two hundred feet in diameter. The rapidity of its filling (in twelve minutes) will give some idea of the quantity of the fluid mass.

Towards evening, although very much fatigued, we walked down to the edge of the bank, to have a view of the eruption that was flowing from this small lake; and although I had thought it impossible that the appearance the great burning lake presented on my first visit could be exceeded, yet this far surpassed it. The most brilliant pyrotechnics would have faded before what we now saw. A better idea of the light given out by this volcano, will be obtained by the fact that it sometimes produces rainbows in the passing rain-clouds, one of which was seen by Mr. Drayton. The whole bottom of the crater north of Judd's Lake, upwards of a mile and a half in length and half a mile in width, was covered with fluid lava, running in streams, as though it had been water. These here and there divided, and then joined again, tumbling in rapids and falls over the different ledges. The streams were of a glowing cherry-red colour, illuminating the whole crater around; the large lake beyond seemed swelling and becoming more vivid, so that we expected every moment to see an overflow from it of greater grandeur. We sat watching the progress of both for many hours under great excitement, and saw the formation of pools of the igneous liquid, one after the other, until accumulating they overflowed the banks, and rushed on to fill some cavities beyond. We could not but feel ourselves identified with this spectacle, by the occurrences of the day, and in particular by the fortunate escape of our companion; and we sat speculating on the horrible situation of one cut off from escape by these red-hot streams. The sight was magnificent, and worth a voyage round the world to witness. It was with regret that I returned to our tent, determining in my own mind to have a nearer view of this overflow, in the morning.

We arose early, and our attention was immediately called to the crater. The large lake had sunk out of sight from our position, while the smaller one was seen to be still overflowing its banks, thus proving satisfactorily that their fires have no connexion with each other. Upon the whole I was glad to see this state of things, as it would afford me an opportunity of getting near the large lake, to obtain an accurate measurement of it.

At an early hour I started with a party, consisting of Lieutenant Budd, who had joined me on his descent from the mountain, and several men. We descended by the usual path, and on reaching the black ledge, we made measurements of its width, and took some angles to ascertain the height of its banks. Lieutenant Budd then, with some of the men, was ordered to descend to the bottom of the crater, and get similar observations for the altitude of the black ledge above the bottom, after which to ascend to the black ledge, and proceed by the west side towards its southern end.

The result of these observations gave six hundred and fifty feet for the height of the bank above the black ledge, and the latter was found to be three hundred and forty-two feet above the bottom: thus the total depth of the crater was nine hundred and ninety-two feet.

With some of the men I proceeded towards the great sulphur-bank, on the east side, fixing my positions as I went along, by observing on the signals which I had used the day before. When we arrived opposite to Judd's Lake, we went to the edge of the black ledge, where, in looking over, the heated air that arose might be said to be almost scorching. The whole area below was filled with fluid which appeared of a red heat, and still flowed to the north. Its surface was level, when compared with what Dr. Judd had found it the day before. Near this place were several holes in the black ledge, about two hundred feet in diameter, where it had caved in, exhibiting large chambers of great depth. Beyond these holes were innumerable cracks, increasing as we approached the southern end, to which I was hastening, because I had concluded to finish this part of the work before we became exhausted. In passing over these cracks, it became necessary to put the hand over the mouth to avoid the heated blast, which, as we proceeded, became more stifling with fumes of sulphur.

We at last reached the extreme end, where we measured our line, and took the angles as quickly as possible. The lake proved, from my measurement, to be fifteen hundred feet in length, by one thousand in width, and I found that it had sunk about one hundred feet during the last night, supposing Dr. Judd's estimate of its being twenty feet below its edge to be correct. It now appeared to be but little agitated, and the rocks on its side were left as if spattered with pitch, probably by the same kind of lava as that we had observed on the top of the mountain.

Just as I had completed the measurement, the sergeant gave me notice that he had perceived a movement in the bank, upon which I ordered a hasty retreat. One of the men who was before stumbled in his hurry, and fell, disappearing from our sight; we instantly stopped, and my heart rose to my throat. I could scarcely believe my eyes when I saw him rise again from the crust of lava, through which he had fallen into a chasm.

As we approached the sulphur-banks, there was much more heat and many more signs of action near it; the sulphur-bank was seen to be constantly in action, if I may so express it, similar to the slaking of lime. Numerous specimens of sulphur were obtained here, and one of a sulphate of copper of a fine blue colour. These crystals of sulphur were by no means so beautiful as we had found them at the northern bank.

In several of the caverns were stalactites in the form of a long cone, of a black colour, from eighteen inches to two feet in length, and an inch in diameter at the base: these were found to be solid, and of a silicious matter.

To stand on the black ledge and look around on the desolation which appears on every side, produces a feeling similar to those with which the scene of some dreadful conflagration would be viewed. The same description of sadness is felt that such a prospect would create, while there is in addition a feeling of insecurity, arising from the fires that are raging around, and are known to exist underneath.

Although the black ledge has the appearance of being level when seen from the top of the wall, it is not found to be so. It varies in width from six hundred to two thousand feet, and has been overrun in various directions by streams of lava, varying in size from that of a serpent to an immense trunk or tunnel, which, after spreading, pass down into some chasm and are lost. The view around has nothing earthly in it; one cannot comprehend how rock can be thus fused without the agency of fuel. Our notions of the solidity of stone must here undergo a total change; and there appeared nothing belonging to this world at hand with which to form a comparison.

Our party seemed absolutely lost in this immense pit. It takes some time before the eye can embrace the whole, or become in any way accustomed to the scene around; and I therefore ceased to wonder at the discrepancies in the descriptions I had heard of it. From this cause, and the want of any accurate drawings by preceding visiters, I was unable to arrive at any distinct knowledge of the changes it has undergone; but I hope that our observations and survey will prevent this from being the case hereafter.

The varieties of lava that are met with are not the least striking part of this phenomenon. The description which appears to predominate is of a dark hue, and metallic lustre; it lies in a layer a foot thick, and is quite solid: the others are less dense, more vesicular, and vitreous. Each separate flow seems to differ from the succeeding one, and can be easily recognised. It afforded us some amusement to trace the extent and character of the several beds. That which was ignited during our stay was in many parts so vitreous as to be almost obsidian. Pumice is generally found in small lumps on the plain above; but I do not now remember, nor does my note-book make any mention, that pumice had been seen in the crater.

As the layers or strata of basalt increase in thickness, they become more compact. The absence of clinkers and of any flow of lava on the plain, prove conclusively that Kilauea has never overflowed its banks.

The crevice to the south extends for a great distance, and may be traced by the steam issuing from it; it is not, however, to be considered as continuous, for the cracks are of different lengths, and sometimes overlap each other, and again are intermitted for hundreds of yards. Large quantities of Pele's hair was seen covering the plain.

In order to show how difficult it is to fix upon the recollection the actual state of the crater, and the position of things around, I may state, that one of our gentlemen insisted upon it that the large "blowing cone," near the north side of the black ledge, had been thrown up since our first visit, although it was then, as it continued to be, one of the most conspicuous objects in the crater, and likely to attract particular notice. It was difficult to convince him that it had been there during his first visit, until I showed him a camera lucida sketch that I had taken of the crater, in which it appeared conspicuous in the foreground.

Our track from the sulphur-banks was directly to the place of ascent. Laden with specimens, we returned, quite worn out, to our encampment before sunset. Lieutenant Budd, who had not succeeded in reaching the end of the black ledge, returned shortly after us. On his side, the air was too hot and stifling to permit this object to be accomplished; and, although I was watching for him with my spyglass, I could see nothing of him after we parted.

In doing this, I perceived a curious effect of refraction, produced by looking over the lakes, when the line of sight passed through the heated columns of air as they arose from the fluid below. The opposite bank seemed at times in motion, dancing up and down, as the breakers on the sea-shore are sometimes seen to do. The stratification of the rocks seemed to be twisting and dancing up and down also.

After being at this volcano four days, I was as little disposed to leave it as at first; it is one of those places that grow in interest, and excite all the energies both of body and mind: the one to undergo the necessary fatigue, and the other to comprehend the various phenomena.

The discharge from the large lake during the night of the 17th, must have been equal to fifteen million cubic feet of melted rock; this, undoubtedly, found cavities to receive it on the line of the eruption. It is impossible to calculate the discharge from the smaller, or Judd's Lake, but supposing it had continued as rapid as it was at the first filling, it would have thrown out, by the time I was there next day, upwards of two hundred million cubic feet of lava. It will readily be perceived, that with such a flood, it would be possible, within the lapse of a period comparatively short, geologically speaking, for a mound the size of Mauna Loa to be heaped up. However large the above numbers may seem to be, we have reason to suppose, from appearances, that the "boiling up" and overflow of the terminal crater of Mauna Loa must have been far greater, so much so indeed that the outpourings of Kilauea cannot bear a comparison with it. Its whole height, of more than six thousand feet above the plain of lava, appears, as I have before noticed, to be entirely owing to the accumulation of ejected matter.

All the parties having arrived, I despatched them to Hilo, with the exception of Lieutenant Alden, who was ordered to pass by the cone of Tulani, an old crater on the north flank of Mauna Loa, in order to get a set of angles, to connect our stations at the volcano immediately with the ship at Hilo.

Previous to our departure this morning, we missed two small brass disks belonging to one of the instruments. I mention this as the only theft that had hitherto occurred, notwithstanding our instruments were necessarily much exposed, and a large number of natives always around us. Diligent search and inquiry were made for them, but without success.

As the parties were about setting out, Mr. Eld desired to descend into the crater, to satisfy his curiosity. He was also instructed to obtain the measurement, as I was desirous of proving my own as well as Lieutenant Budd's observations.

The measurements coincided within a few feet of each other.

Dr. Judd and myself took up our march about noon, in order to follow the line of pit-craters and the late eruption of lava on the east. Our company, on this route, consisted of about forty, including Dr. Judd, the servants, six seamen, and the Kanakas who were employed as bearers and carriers of the baggage, tents, &c. One half of these were well loaded with poe, as it generally requires one man to carry food for two, and without taking one's own supplies, it would be impossible to think of travelling in this country.

We were extremely fortunate in our Kanakas, who were a body of fine young men, that had come up from Kapoho, the southeast point of the island, with provisions for sale, when Dr. Judd engaged them to become our carriers. This was opportune, as they were all well acquainted with the road we were about to travel.

The first object we passed on our route, was Lua Pele, (the Pit of Pele,) to which the road approached within a few rods. We had a beautiful view of this crater, which is circular and nearly filled up with trees, with the exception of the bottom, where a patch of black lava was seen. The variety of the green tints of these trees produced a singular effect. This crater has long been in a state of rest, and seems to have been very different from the great crater of Kilauea, both in its mode of action and the character of its lava.

A little beyond Lua Pele we passed a deep crevice, about four feet wide: this runs towards a rise in the plain, of about sixty to eighty feet, which extends in a southerly direction, and is, apparently, the boundary of the crater-plain on the east side. This crevice is somewhat similar to that which I remarked on the western side, and so far as could be judged by the eye, seemed to be inclined towards the great crater.

We continued our route towards the southeast, over a plain partly covered with sand, and at the distance of two miles passed the pit-crater of Kalanokamo: this is the fourth from the crater of Kilauea in a southeast direction.

By the term "pit-crater," is meant that description of crater of which there is no appearance whatever until one is close upon it, and which never throws out lava. The formation of these might be occasioned by the undermining of the part beneath them. It will be seen, on viewing the map, that some of them have only a small part of their bottom covered with lava. The most probable conjecture, in relation to their origin, that occurred to us while moving over the ground was, that a stream of lava had passed underneath, and running off had left large cavities, into which the superincumbent rock above, not having support, had fallen, and when this had sunk sufficiently low, the lava had flowed in and filled the bottom. Some of these pit-craters are from eight hundred to one thousand feet deep, but none that I saw had the appearance of eruption within themselves.

There is another description of craters, which may be called cone-craters. These are hills of scoria and ashes, formed by the ejection of masses, which appear to be of the same description of lava as the clinkers of Mauna Loa, though they more nearly resemble the dregs from a furnace.

The first cone-crater we met with was about a mile beyond Kalauohana, and is called Puukehulu. This I ascended, and measured its height, which was eight hundred feet above the plain: it was nearly a perfect cone, both within and without, and covered with trees both outside and in. The ashes were in some places so light and dry, that I sank in them up to my knees. From the top of this cone I had a fine view of the surrounding country, and was enabled to see all the pit and cone-craters. There were eight pit-craters in sight: four between us and Kilauea, one at the foot of Puukehulu, and three more, further off, to the east-southeast: two cone-craters lay to the east of us. The steam was rising from the crevices along the line of the last eruption.

From this situation, angles were obtained on them all, and connected with the stations around Kilauea. Mr. Drayton, who had been over the route, sent me a map which he had constructed from his own observations, on which I was enabled at once to mark out my own position accurately.

The map of the southeast portion of Hawaii was constructed from the combined observations of Mr. Drayton and myself, with the addition of some cracks and eruptions from Dr. Pickering's notes. The country to the southeast appears well covered with woods, while to the south it is bare and barren. The map, however, will give a better idea of it than can be derived from any description.

Nearly at the foot of Puukehulu, is the pit-crater of Alealea-iki, which has had a flow of lava into it: it is about five hundred feet in depth, and of an elliptical shape.

We continued our route towards Panau, passing over a rough lava country, on which was a young growth of sandalwood and okea trees. Before reaching Panau we found ourselves in a luxuriant growth of Cape gooseberries (Physalis Peruviana), which we found quite refreshing after our walk. The natives do not make any use of them, and seemed somewhat surprised to see us eat them.

At Panau we found a large clearing in the woods, and a village, consisting of three or four native houses. Here many canoes are built and transported to the sea, the trees in the vicinity being large and well adapted to this purpose. I was told that they met with a ready sale.

Dr. Judd, who had been somewhat unwell since his escape, was now seized with fever; and soon after the tent was pitched, went to bed, as he felt that he required rest. The burns he had received on his wrists had become very much inflamed; he, however, found himself much better the next day, and we concluded to proceed. Panau is two thousand six hundred and seventy-six feet above the sea, and was found by observations to be ten miles southeast of Kilauea.

In the morning, previous to starting, the men reported to me that their frying-pan had been stolen during the night. I therefore ordered immediate search and inquiry to be made for it. Great alarm in consequence was excited among the natives who attended us; so much indeed, that I ordered the men to desist, conceiving it very probable that one of the other natives, who had been flocking in numbers to see us, had carried it off. To judge from the scarcity of supplies, the inhabitants of this part of the island are very poor.

We left Panau after half-past eight o'clock, and passed on towards the east. After travelling about three miles, we came in sight of the ocean, five miles off. Our course now changed to the northeast, and before noon we reached an extensive upland taro-patch, where I sat down to get the meridian altitude. While thus occupied, I thoughtlessly picked a piece of taro-leaf, and put it into my mouth; in a few minutes I was almost gasping for breath, from its acrid juice. It was consequently with difficulty that I succeeded in getting my observations.

Our path now led through a sort of jungle, and over ground resembling a quagmire, for a mile or two. It appeared we had been traversing an extensive basin, covered with a dense vegetation, which the sun was not able to penetrate. For the first time on our journey, we now had plenty of water. On passing beyond this basin, we entered upon one of the old lava-plains, where we encamped near a pool of water. This plain is covered with stunted shrubs, and the old lava seemed more broken than any we had yet passed over since leaving the crater. In consequence of a mist, the walking was wet and slippery. During the day one of the men fell and sprained his ankle, and it became necessary that he should be carried, which office his companions performed with an attention that pleased me much.

There are several peculiarities about the natives which we now noticed: among other things they are exceedingly proud of their skin, and take it as a great affront to be spattered with mud; if any thing could ruffle a native's temper, it would be this. The young are particularly careful to avoid all puddles or mud; indeed, I thought more so than we are with our fine clothes.

Our encampment was found to be two thousand two hundred and sixty-six feet above the sea. The temperature was 64°.

We had now reached the line of the recent eruption, and it was my purpose to strike the head of the flow. Mr. Drayton, our consul, and Mr. Brackenridge, had already visited the first outbreak of the late eruption, of May 1840, which is marked on the map near the pit crater of Alealea-nui, and also that to the east of the Old Crater. The latter, with that of Kanemuo-kamu, were the largest of the pit-craters, always excepting Kilauea. Mr. Drayton considers Kanemuo-kamu as the deepest crater he saw on the island, and the Old Crater as the most regular.

As far as we were able to learn, the two eruptions to the east and west of Moku-opuhi occurred on the same day, and nearly at the same time.

On the 20th of January, it was nine o'clock before we could proceed on our journey. The weather was mild and pleasant, and it bade fair to be a delightful day. By noon we had reached the position of three cone-craters, of moderate height, the ground about which was much broken. We afterwards diverged from the direct path, our guide taking us across the country a distance of four miles, on the north side of Kalalua. This march proved to be an arduous undertaking, for what had appeared to us at a distance to be smooth to travel on, proved on a nearer view, to be rough lava clinkers, overgrown with grass and stunted shrubbery, that deprived us of the opportunity of discovering where we were going to tread. Every few steps some of the party fell, and we considered ourselves very fortunate in escaping without any broken legs. Almost all the party had their feet more or less bruised, and the skin knocked off, by slipping through the old and weak crust. Walking over clinkers is, even when one can see the way, irksome and dangerous, but passing over them when concealed, is particularly so. We all felt ourselves heartily tired, and I am satisfied that scarcely any thing would have tempted any of us to pass over the route again. What made it more provoking was the the ease and facility with which the natives traversed it.

Towards sunset we had a drizzling rain, and finding it impossible to reach Pahuhali, we determined to encamp a mile or two beyond the Kaimo road, at the head of the eruption. When this was done, we found ourselves with little or nothing to eat in the camp. A messenger was therefore forthwith despatched to Pahuhali, and after waiting anxiously, and speculating on his success, we were gratified by the light of distant torches, and soon found ourselves supplied with all that the land afforded—pig and taro. The men got a good supper, but they had little sleep, for it rained hard and they were completely wet; although protected by tents, we found ourselves floating in water.

Kalalua is the largest cone-crater in this part of the island; and I was informed it had thrown out lava, but I had not time to examine it. Appearances indicated that the native account was true; the streams of pahoihoi, on its flanks, appeared to come from its crater. The height is one thousand one hundred feet.

The altitude of our station above the sea, was one thousand two hundred and forty-four feet. The thermometer stood at 70°.

Early on the 21st, we began to examine the locality, and found that we were a short distance below the upper part of the eruption. It had begun first in a kind of point, and accumulating there, had stretched itself out on either side, gathering strength as it went, until after proceeding about two miles it became a torrent of fluid rock, from ten to fifteen feet in thickness, which swept every thing before it, overlaying the soil, and destroying all the vegetation that came in its way.

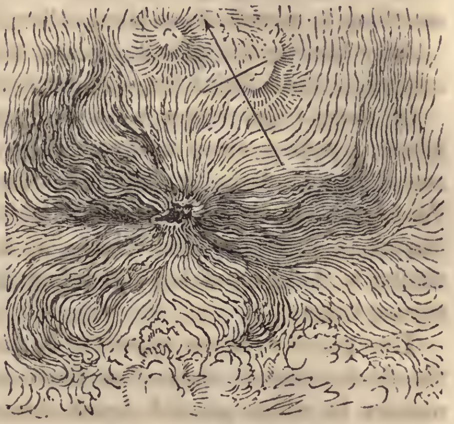
After a northeast course of three miles, we entered upon the lava stream, where it was about a mile wide, resembling a river congealed at once into stone, leaving all its flowings and eddies distinctly marked and perpetuated. It was covered here and there with the fallen timber, appearing in some instances as if it had been bleached; only a hole was left to mark where each tree had stood, the stump having been entirely consumed. These holes were frequently found as much as twelve or fifteen feet in depth. Of their origin there can be no doubt, and my supposition is, that by the time the tree had been burnt off, the rocky stream became fixed, which would account for the tree being still so near the place where it had formerly stood. Some of the trunks were partly burnt, and others again had epiphytic plants still adhering to them.

In some places lava was found adhering to the leaves and branches of trees, appearing as if it had been spattered upon them. In some instances the lava thus adhering might have been taken for birds' nests, yet the wood exhibited no signs of fire. The circumstance which astonished me most, was the state of a copse of bamboos (Bambusa arundinacea), which the lava had not only divided, but passed on each side of: many of them were still living, and a part of the foliage remained uninjured. Some of the large trees, not more than twenty feet from the stream, seemed scarcely affected, and yet not thirty yards from them we lighted our sticks by putting them down no farther than two feet below the surface, although eight months had elapsed since the eruption happened. Nearer to the sea, all the foliage to the distance of three hundred and fifty yards from the lava stream was killed. To account for these circumstances, we must suppose either that the lava flows more rapidly, or that its power of radiating heat is much less than is generally believed.

The fixed stream has so much the appearance of a fluid mass that it is deceptive, and the whole seemed yet in motion. Fire and smoke were to be seen in many places. Its line of descent to the sea was on a declivity of one hundred feet to the mile, and according to the native account it reached the sea in two nights and a day—thirty-six hours. The distance being a little over ten miles, the velocity must have been about four hundred feet an hour.

We proceeded down the lava stream until it expanded to a width of three or four miles. There are many fissures along the whole line, as will be perceived by the dark places on the map. I feel confident that from each of these an ejection had taken place, and that the lava had in some cases flowed in a contrary direction to the general course of the stream; for being traced in such cases, it was seen to have proceeded from a fissure that had occurred on rising ground. Wherever the ground was steep, it was there perceived that tunnels or hollowed places occurred, in consequence of the molten lava having flowed from beneath the crust formed by cooling. The upper part of the stream was composed of the description of lava called pahoihoi; the lower portion was much broken, though not of that description called clinkers, and seemed as though it had been crowded together and broken up like ice in the breaking up of the frost in our rivers, slab overlaying slab, and many of them ground to pieces by the great pressure from behind.

About six miles from the sea, it appeared as though there had been a simultaneous outbreak over a large area. The stream was sufficiently fluid at all places to seek the lowest level, and an idea of the flowing may be formed from the annexed diagram, which I sketched from the top of a cone.


LAVA FLOW.

Near the centre of this flow was a mound that had been covered with trees. These were all left standing, but had not a leaf upon them, which increased the desolate appearance of the scene before us. In our walk we occasionally met a "blowing cone," with quantities of salts, sulphur, and hot sulphureous gases still issuing from it.

After having satisfied ourselves with this part, we ascended an old crater-hill, and crossing over it, came to an old lava plain of the kind called pahoihoi: this appeared quite solid, and its surface was unbroken; there were no holes like those I have described on the recent flow; but in place of them there were a large number of raised truncated cones, some of which were inverted. These appeared to me to have been lava jets that had resulted from a subsequent flow of the upper pahoihoi, which had been forced upwards, cooling as it met the air, and congealing. Each of these pillars was perforated with a hole from top to bottom, and the lava that composed them was laminated. The wood-cut of lava jets will be seen at the end of this chapter.

These columns are sometimes twenty feet high, and some of them resemble colossal statues of rude workmanship.

As long as the pahoihoi lasted, we had pleasant walking; but it did not reach far, for the rough lava seemed to predominate in our path, and made the way irksome and fatiguing.

This hill has a tradition attached to it, which one of our guides related to us. When Palila, one of their gods, in former times, was on the hill roasting bananas, the people of Papapala saw the smoke, and went up to ascertain who was there. They found only a boy cooking bananas, and attempted to take them from him; but his power was such, that he beat them all and drove them down the mountain; and they never again ventured to encounter so powerful a god.

Almost all the hills or craters of any note have some tradition connected with them; but I found that the natives were now generally unwilling to narrate these tales, calling them "foolishness."

After leaving the pahoihoi plain, we passed along the line of cone-craters, towards Point Kapoho, the southeast part of the island.

Of these cone-craters we made out altogether, large and small, fifteen, trending about east-northeast. The names of the seven last are Pupukai, Poholuaokahowele, Punomakalua, Kapoho, Puukea, Puuku, and Keala. On some of these the natives pointed out where there had formerly been slides, an amusement or game somewhat similar to the sport of boys in riding down hill on sleds. These they termed kolua.

This game does not appear to be practised now, and I suppose that the chiefs consider themselves above such boyish amusements. The manner in which an old native described the velocity with which they passed down these slides, was, by suddenly blowing a puff; according to him, these amusements were periodical, and the slides were usually filled with dried grass.

As we approached the sea-shore, the soil improved very much, and was under good cultivation, in taro, sweet-potatoes, sugar-cane, and a great variety of fruit and vegetables. At about four o'clock, we arrived at the house of our guide, Kekahunanui, who was the "head man." I was amused to find that none of the natives knew him by this name, and were obliged to ask him, before they could give it to Dr. Judd.

By this little circumstance, we found that it was still customary for the natives to change their names, according to their caprice, and it appeared that this was the case in the present instance. I neglected to put down his former name, which appeared to me as much too short as the last was too long. We found him to be a petty chief, who superintended lands belonging to another. He had sent on in advance orders to have his large house prepared for us; and we found that it had been vacated for our accommodation; but as both Dr. Judd and I had been punished before by sleeping in a native house, we preferred our tent; and it was lucky we did so, for the men informed me the house was infested with fleas.

The view from the guide's house was quite pretty, the eye passing over well-cultivated fields to the ocean, whose roar could be distinctly heard. I felt great delight in again seeing it.

The course which the subterranean stream appears to have taken, is somewhat singular, and may be followed pretty accurately by the direction of the steam-cracks.

From the best information we could obtain, it appeared that the lava first showed itself in the crater of Alealea-nui, and burst out next within one fourth of a mile of it on the north; thence it appears to have passed under Moku-opuhi, a cone, crater, and reappeared again on its opposite side; whence it seems to have had a long subterranean course, until it reappeared near the Kaimo road. The natives say, that it burst out in eight different places before it reached the sea. An intelligent-looking native, whom we met and took as guide, who had lived near and appeared perfectly well acquainted with the ground, told us, that the recent eruption was preceded by three days of earthquakes; that the lava appeared and ran down to the sea within a single day, but that it was three weeks before it was cool enough to bear a person on its surface.

Having time before dark, we determined to pay a visit to the three craters nearest the coast, from which they are distant less than a mile and a half. They are four hundred and fifty-six feet high, of irregular form; and although each is distinct from the others, yet they seem to have, at one time, run into each other. They looked very picturesque within; and one of them, to our surprise, exhibited a well-cultivated farm, with a pretty cottage in the middle, surrounded by a few trees. One of my Yankee sailors declared, that he would not be ashamed to own such a farm and dwelling in New England.

In the bottom of one of these is a small lake, as smooth as a mirror, and of a light-green colour, which contains plenty of fish. After an earthquake, its water has frequently turned red and yellow, and smelt strongly of brimstone. It is about six fathoms deep, by the report of the natives, and two hundred yards across.

In another of the craters is a pond of fresh water, of small dimensions. Another crater, near by, is said to have a hot spring in it, which the natives use as a bath.

We returned to our guide's house, where we had an abundance of every thing supplied us; and at eight o'clock distinctly heard the evening gun on board the Vincennes, at Hilo, a distance of fifteen miles. While we were at the crater of Kilauea, the men reported to me that they had heard it; but I was then under the belief that the sound was occasioned by an explosion in the volcano. The whole country between Hilo and the southeast point of Hawaii, is covered with lava; which may account for the distinct transmission of sound, for so great a distance, from a small howitzer.

One of the men shot a beautiful white owl, and brought it to my tent, where Dr. Judd laid it down, to all appearance quite dead; a few minutes afterwards, to our surprise, it flew away, having been only stunned. I regretted its loss; for it was a beautiful specimen, and one that we had been endeavouring to obtain for some days past.

During the night, one of the heaviest rains I had experienced in the island, fell; but the morning was bright and clear,—every thing seemed to be rejoicing around, particularly the singing-birds, for the variety and sweetness of whose notes Hawaii is distinguished.

Previous to our departure, all the tenantry, if so I may call them, came to pay their respects, or rather to take a look at us. We had many kind wishes, and a long line of attendants, as we wended our way among the numerous taro-patches of the low grounds, towards Puna; and thence along the sea-coast towards the place where the lava entered the sea, at Nanavalie. The whole population of this section of the country was by the wayside, which gave me an opportunity of judging of their number; this is much larger than might be supposed from the condition of the country, for with the exception of the point at Kapoho, very little ground that can be cultivated is to be seen. The country, however, is considered fruitful by those who are acquainted with it, notwithstanding its barren appearance on the road-sides. The inhabitants seemed to have abundance of bread-fruit, bananas, sugar-cane, taro, and sweet-potatoes. The latter, however, are seen to be growing literally among heaps of stones and pieces of lava, with scarcely soil enough to cover them; yet they are, I am informed, the finest on the island.

At Puna, there is a large church; but no appearance of a village, the houses being much scattered. The church, it is said, will contain two or three thousand persons. The Rev. Mr. Coan, I understood, officiates here occasionally.

Before reaching Nanavalie, we passed through Kanakiki, a small village; and the sand-hills at the former place were reached before noon, when I was enabled to get the meridian observations. The height of the highest sand-hill was found to be two hundred and fifty feet: it is perpendicular on the side next the sea, which is rapidly washing it away. Here we met several natives, who confirmed the story of the earthquakes, and said that they had been very severe. I have not before stated the fact, that none were felt at Hilo; and indeed earthquakes on Hawaii seem to be local. One was said to have taken place during my visit to Mauna Loa; but no one of the party felt any shock.

There are three of these sand-hills, which caused me more astonishment, and involved greater difficulties to account for them, than any other phenomenon connected with the eruption. From the accounts given me, the coast at Nanavalie, previous to the eruption, was one continuous lava cliff, of the hard metallic kind, like that which is still found on both sides of the sand-hills for several miles. There was no appearance whatever of sand. At present there are three large hills, composed of sand and gravel of a light yellow hue, with little mixture of lava or scoria. The last unite with the lava plain near the sea, which may be observed in some places to flow under them.

Beds of sand and gravel, similar to those composing the hills, exist for some distance along the sides of the lava streams. From all accounts, the formation of these took place at the time the lava stream joined the ocean, which must have produced a violent sand-storm, the effects of which are rendered evident for a mile on either side of the stream, by the quantity of sand and gravel that is lodged in the pandanus and other trees.

From the top of the hill I could perceive no appearance of a shoal having been formed, for the water appeared quite as blue as in mid-ocean. This point I particularly attended to, for it had been reported to me that such a shoal had been formed. The sand-hills appeared to have encroached upon the line of the coast about one hundred feet.

Through the sand that was near the sea-shore chrysolite was disseminated in greater abundance than it was met with elsewhere, and of larger size. This mineral is found throughout all the lava formation, in greater or less quantities. To account for the presence of greater quantities of it at this place, it may be supposed that the melted lava, coming in contact with the water, has freed the chrysolite, which the sea has thrown on the shore.

The width of the lava stream was found to be three-fourths of a mile. The portion of it nearest the sand-hills is in a very confused and rugged state, and there are some large accumulations in mounds, that have been forced up by pressure from above and beneath. It is said to have passed over the ancient village of Nanavalie, and left upon its site and cultivated grounds a deep layer of rock. The natives told us that they had remained till the last moment, hoping the torrent might be stayed or turned aside, and thus save their houses. It however swept on, and they had barely time to remove the few articles they possessed. I was somewhat surprised at the natives making so light of these appalling streams of fire, of which the first notice they have is a few shocks of earthquake, and shortly after a distant fire in the woods.

I was particularly struck with the difference between the old and recent flows of lava: the old looks the more fresh of the two, and has the smooth dark metallic lustre before observed, without any vitreous crust; it seems to have flowed over the surface when of the consistence of tar. The late flow has a decided vitreous character, with chrysolite disseminated through it; it has a dark brown hue, and a reddish scoriaceous appearance.

The south sand-hill commands an extensive view over a scene of complete devastation, heightened in its character of desolation by the sulphurous gases and smoke which were still escaping from the recent stream of lava. The latter, except in its dark colour, resembled a river on whose banks large masses of ice are heaped, which had carried destruction in its course, and had crushed or pulverized every thing that obstructed its way. The very hill on which we sat was the effect of the power of this stream of fire. A sketch of these sand-hills is exhibited in the annexed wood-cut.

SAND-HILLS AT NANAVALIE.

The effect of the view was enhanced by the contrast of the bare rock of the eruption, with the verdure that appeared on either side of it.

The stream of liquid lava seems to have borne down all opposition, and to have filled up every hollow that lay in the line of its course.

The country around the stream does not appear as if it had any descent, but the lava stream shows its slope very distinctly.

The natives had been planting sweet-potatoes near the foot of the sand-hills, but there was little prospect of their succeeding in raising a crop. We passed several hours here, and then proceeded on our way through Makuu and Wekahika to Keeau, where we arrived at sunset. The school-house of Keeau was appropriated to the men and natives; but I preferred to occupy the tent, as I was well aware of the peculiar trials to be undergone in the native houses, although it was newly built.

Here we found a delightful spring of fresh water upon the shore, and within the flow of the tide at high water. It enabled us to enjoy a bath, which we had not had the means of doing for forty days. During our journey, we met Lieutenant Budd on his way to the lava plain, who informed me that they were all well on board the ship.

As we had dispensed with all the baggage we could spare, we determined to trust to obtaining provisions on the road; in consequence we generally had a market at our encampment, and one of the first things to be attended to was buying our supper. In this traffic, to which Dr. Judd usually attended, many curious scenes occurred, which caused us much amusement. At Keeau, for instance, an old woman brought some eggs for sale, which we were very desirous of obtaining, but she had determined that she must have a pair of scissors, and refused to take any thing else. Unfortunately for us we had no scissors to give, and no persuasion could prevail upon her to take any thing else for them, although three times their value was offered in money, and she was told it would buy a pair; but no! she marched off with her eggs, and we went without them.

This trait is stronger in the Hawaiians than in the other islanders of Polynesia; and I heard of another remarkable instance of the same sort. A native woman brought to a friend of mine in Honolulu a large watermelon, and desired to have a needle for it; the melon was worth far more, and she was told so. With the needle, more was offered, but refused, and possessing herself of the coveted article, she went away, fully satisfied that she had made an excellent bargain.

Not unfrequently at the markets a native will bring an article for sale, upon which he has fixed an exorbitant price, and he will continue to visit it day after day, until he is quite satisfied it cannot be sold for the desired price, when, instead of offering it at a lower price, he will prefer to carry it away.

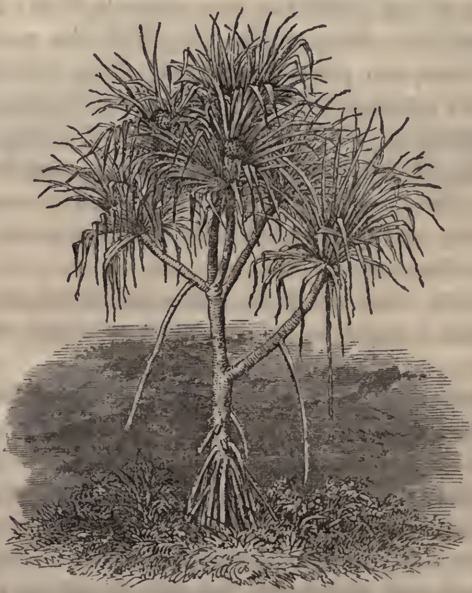
I here learned their mode of reckoning distances is sometimes by lands, which I found to be equivalent to about one-fourth of a mile.

In some places they have taken great pains to secure a good road or walking path: thus, there is a part of the road from Nanavalie to Hilo which is built of pieces of lava, about four feet high and three feet wide on the top. The largest and best pieces are placed on the top; but notwithstanding this, the road is exceedingly fatiguing to the stranger, as the lumps are so arranged that he is obliged to take a long and a short step alternately; but this the natives do not seem to mind, and they pass over the road with great facility, even when heavily laden.

The lava along this part of the coast was similar to that which has been called old, and in some places I observed the impression of trees that had fallen on it before it was cold: the marks of them are now as fresh as if it had happened yesterday. There is no traditionary account of any flow of lava on this coast, which is a precipitous shore, about fifteen feet high, on which the sea beats with violence at all times.

On the 23d of January we were up betimes, being desirous of reaching Hilo before noon, and started, leaving the baggage to follow Our route diverged somewhat from the sea-shore, and lay most of the way through a thick wood of pandanus. This tree is one of the most valuable to the natives: almost every part of it is of use, and especially the leaves; with these they thatch their houses, and make both fine and coarse mats. The women use the fruit, cut into sections and strung, for necklaces: they are of a bright red colour, tinged with orange and yellow, and at a little distance have a pretty effect upon their dark skins.

The mode of using a knife, for pointing the pandanus and other purposes, amused the sailors very much: it is held in either hand, with the point towards the body, and the article to be cut is drawn over it.



PANDANUS TREE.

The growth of the pandanus is peculiar: it forms whirls, generally from left to right, but occasionally one is seen turning in the opposite direction, and it becomes not a little puzzling to determine where they differ, unless the two happen to be seen together. Its mode of providing for its own support by the pendent roots, is an economy of nature that appears astonishing, and almost gives an idea that the tree possesses instinct. Many are to be seen very much inclined, that are in the act of putting forth several of these roots on one side, in order to prop themselves up, while not a single one shows itself on the other;

these roots not only grow from the side which requires support, but seem to take that direction which will likewise furnish soil. When the pandanus forests are in full bloom, the whole air for miles around is scented with the fragrance.

This day, for the first time, I saw a deranged native. He had escaped from his keepers; and I thought he was rather harshly used in what I saw of the affray. There was great difficulty in securing him.

Within a mile or two of the observatory, we met Mr. Drayton, going out on another excursion.

We reached the observatory after an absence of forty-two days, and it was delightful to feel ourselves as it were at home again, after so arduous and fatiguing an expedition. I had the pleasure to hear that every thing had arrived safely, and that all were well. On inquiry being made for the Kanaka that had been missing, I learned that a party of natives had gone to the mountain in search of him, but that little hope was entertained that he would be found.

On the 24th, Lieutenant Carr, Dr. Fox, Lieutenant Case, and several of the other officers, were allowed permission to visit the crater.

On the 25th, 26th, and 27th, we were employed in putting up the pendulum apparatus, and began on the night of the latter to observe coincidences. The three series obtained, to my great astonishment did not agree. I could not account for the discrepancies, for I examined the whole apparatus, agate planes, knife edge, &c., and found them in perfect adjustment, both with plumb-line and level; the scale and telescope were also found correct; the rate of the clock was steady under hourly comparisons with the siderial clock, and observations of the transits of stars.

Although I had covered the pendulum-house with its tent, I thought that some of the discrepancies occurring might be owing to its want of uniformity of temperature. I therefore, on the 29th, had a grass-house built over both, which remedied any defect of temperature. I then continued to observe, but did not find the results more satisfactory; I therefore took down the whole apparatus, put it up, readjusted it anew, and took another series during the night. These were rather more in accordance. I continued observing through the 30th and 31st, but with no satisfactory results. I then examined the pendulum again with the plumb-line on both sides at the same time: they both coincided with the marks made in London by Mr. Baily and myself, in 1836. I next tried the iron pendulum, and found it to agree also; reversed both pendulums on the knife-edge, but the results were still discrepant.

I must admit I felt perplexed and mortified, not only at the loss of time, but at being unable to detect the cause of the discrepancies. I determined, however, to persevere, and continued to observe from the 1st to the 10th of February, but with no better results, some corresponding, whilst others disagreed every alternate series. The deviation was irregular, and having kept a watch upon the apparatus, I began to suspect that the discrepancy was the effect of volcanic action, and that the ground was unstable. To ascertain whether this was the case, I tried a mercurial horizon on the top of the pendulum-frame, and after watching it for nearly an hour, I could perceive no movement or vibration. On inquiry, I found there was a hot spring beyond low-water mark, which the man who attended the tide-staff had discovered in wading off. This spring was about one hundred and twenty feet from the pendulum-house; but I at last satisfied myself that the tide, and more particularly the surf, had more to do with it; and in looking over the series, I found that when the surf was heaviest they were most discordant.

During this time I was employed in making astronomical observations, and when they were finished, I felt myself at liberty to try other situations for the pendulum observations. Mr. Pitman having offered me his son's house at Paneo, I had every thing transported thither. Paneo is situated on a high bank of lava rock, covered by six or eight feet of decomposed lava rock and vegetable mould. On this soil, large bread-fruit trees, some of them two feet in diameter, were growing. The height of the house above the water was fifty-four feet, and it is removed about three hundred yards from the beach. Between Paneo and Hilo the Wailuku river runs, at whose mouth on the Hilo side, there was generally a long and regular surf rolling in; but I did not suppose it possible that this surf could incommode the observations. After repairing one of the grass-houses, the pendulum-house and apparatus were put up, the whole being in perfect adjustment, and the series was begun.

The first difficulty I now had to contend with was the stopping of the clock. When this was reported to me, I was almost in despair, for on the other side of the bay it had been proved to go well. The clock was again set in motion, but in a short time again stopped; and the apparatus was once more to be taken down, and all the adjustments were again to be made, a work of three or four hours. On opening the clock-case, the cause of its stopping was disclosed by the appearance of a large spider, which had wound his web so tightly round the fork, and connected it so closely with the case, as to stop the pendulum. Although this was provoking, I was much relieved by finding that it was a cause so easily removed; and the whole was put up anew.

I now flattered myself that I should be able to go on successfully; but this was soon found to be a fallacious hope. The series were evidently less disturbed, and the disturbance was found to be connected with the times of the greatest surf. I, however, went through a thorough examination of the apparatus, and discovered, with a high magnifying power, what was thought to be a scratch in the agate planes. I therefore shifted the knife-edge, causing it to rest about one-sixth of an inch from its former place. As like irregularities continued, the scratch could no longer be assigned as the cause. I therefore concluded finally that the roll of the surf was the sole cause of the discrepancies; and on the 23d of February I determined to make another move, to Mount Kanuha, a hill back of Hilo, which I named after the chief who owned the spot. At this hill I engaged three grass-houses, one of which he agreed to enlarge for me, about ten feet, which, with the rent for the time I should require them, was to cost ten dollars. A detachment of sailors was at once ordered, and the whole apparatus, house, &c., was soon on the move. Mount Kanuha is three quarters of a mile from the bay, and elevated above half tide one hundred and forty feet. Before twenty-four hours had expired, the whole apparatus was up and the clock in motion. After its rate became settled, the series with the pendulums were successfully completed, no disturbance being found to exist at this last locality.

For these interesting results, the reader is referred to the volume on Physics. The difference in altitude of the two stations at which the pendulums were swung, was thirteen thousand three hundred feet.

On this occasion I was assisted by Mr. Eld, who entered most fully into my anxieties and the excitement incident to them, and who joined me in the perseverance and exertions necessary to overcome all the obstacles we had to contend with. On the 2d of March, these duties were completed, and the instruments embarked.

Our time would have passed quite agreeably here had it not been for the vexatious delays that have been spoken of. The house I occupied at Paneo was on a charming spot, susceptible of much improvement; and altogether one of the most desirable situations for a residence on the islands. During the period of my stay, it offered a delightful retreat, and enabled me to enjoy it as well as the fine weather: the latter I may have estimated more highly than it deserves; for the inhabitants of the village were by no means inclined to extol their climate, and considered the season as quite remarkable both for the absence of rain as well as the constant sunshine that prevailed; and from all the statements I received, I should, notwithstanding my own experience advise all those who visit this port to be prepared for the interruptions a few hours of rain each day may occasion; with this exception, it may be strongly recommended as a convenient and safe resort for vessels.

Having thus closed the narrative of the ascent of Mauna Loa, my visits to Kilauea, and of the difficulties that attended not only the excursion to the mountains, but the experiments performed near the water's edge, it is time to revert to the operations of the parties which were not under my own immediate command. These will form the subject of the succeeding chapter.

BLOWING CONE OF THE CRATER.

# CHAPTER VI.

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# CHAPTER VI.

## HAWAII.

## 1841.

During the time of our residence on Mauna Loa, Dr. Pickering and Mr. Brackenridge volunteered to make the ascent of Mauna Kea. They were furnished with guides, among them Sandwich Jack, our bullock-driver, whose true name I believe was Dawson, though he went by the sobriquet of Billy Lilly. They set out on the 8th of January, attended by natives from Hilo, belonging to Kanuha, having agreed to pay each of them fifty cents a day. Their first stage was to the saw-mill erected on the Wailuku, distant about seven miles from Hilo, and three miles within the verge of the forest: here they stopped for the night with a man by the name of Simons, who is the occupant of the mill, which belongs to a Mr. Castle. The mill, as I understand, had proved but a bad speculation: it is now out of repair, and there is not sufficient demand for boards to make it at all profitable.

In the evening a native from Hilo joined them, and communicated the information that the chief Kanuha, who was entitled to one-fourth of the pay of the natives, was much displeased with them for having agreed to serve for fifty cents a day, when they should have asked twelve dollars each for the trip. In consequence of this, they would not proceed the next day; and Dr. Pickering determined on returning to Hilo to have the affair settled. Kanuha disclaimed any participation in the refusal, and sent a messenger back to order the men to proceed.

On the 10th of January they resumed their journey, and followed the "Long Road" for about two miles, which is the whole distance to which it extends; the removal of the chief who was engaged on it had put a stop to its further progress. They were now fairly in the forest, which was thought by our gentlemen to be a fine one; it consisted altogether of two kinds of trees, the ohea (Callistemon), and koa (Acacia); they also met with several species of the tree-fern, which seem to vie with each other in beauty. Many of these were of genera and species that had not before been met with, one of which afforded the silky down before spoken of, and another, the edible fern, a drawing of which will be seen at the end of this chapter. On reaching the bed of the stream, which is one of the routes through the wood, the guides led them upon it. As they proceeded, they overtook one of the boys who had preceded them, endeavouring to catch a large bird. He had armed with bird-lime one of the pendent branches of a small ohea tree that overhung the stream and was in full flower. As they were passing, the bird was seen hovering about, while the boy was slily watching its movements. When they had passed it a short distance they heard the scream of the captured bird, but by some mishap it afterwards escaped.

Their encampment was under an ohea tree, where the natives built a hut for them with boughs and the fronds of ferns. From the prevalence of heavy rain they found all the wood wet, and could not succeed in making a fire: they consequently passed a miserable night; for in almost any climate, when encamped in the open air at night, a fire seems to be necessary for comfort, particularly when the weather is wet.

Conglomerates were the most frequent rock in the bed of the stream. This rock had not been met with on the trip to Mauna Loa; and on diverging from the stream, the compact rock of that mountain seemed to prevail.

Their guide, Dawson, during the morning showed much alarm at their starting some young cattle, lest the old cows should be near, who he thought might be troublesome: the cattle, however, were discovered afterwards to be tame. At the forks of the stream they took the left branch, and after a walk of two miles, came to some huts occupied by natives who had been bullock-hunting. In this illegal practice they seem to have been extensively engaged, judging from the quantities of jerked meat they had on hand.

The cattle have been tabooed for five years, from the year 1840, in consequence of the slaughter that had been made among them. Upwards of five thousand hides, I was told, had been procured in a single year, and when this became known to the government, it interdicted the hunting of the animal. I heard no estimate of the number of the wild cattle, but they are believed to be very considerable, and all from the stock left by Vancouver in 1795.

From these natives they procured some jerked beef, and were told that ice had formed there the night before. The effects of frost on the foliage was evident, and yet the elevation did not exceed five thousand feet.

They encamped at night in an open space in the woods, near some shallow pools called the Duck-Ponds, from the quantity of these birds frequenting them. The ground was chiefly covered with tufts of a small Carex. The trees now began to appear gnarled and covered with moss, resembling oaks in habit. The ground had become much drier, and the brushwood was gradually disappearing.

On the 12th, they started at sunrise, and by eleven o'clock found they had cleared the forest. Their altitude was about six thousand feet. The woods had become for some time previously much scattered. They passed also a distinct lava stream, of no great size. The ground was frozen, and the pools of water were covered with a thin ice.

This upper part of the forest afforded a greater variety of trees, though of smaller dimensions: here they met with the false sandalwood (Myoporum); the koa was, however, still the principal tree.

To the forest succeed the plains; but why this region should be so termed, our gentlemen were at a loss to conceive, for there is an ascent, although gradual, towards the base of the higher peaks; and there are, besides, numerous conical hills, varying in height from two to eight hundred feet: even between these the surface is undulating, and cut up by ravines.

This district is famous, according to report, for the number of wild cattle found on it, and from that circumstance would be supposed to produce fine pasturage; but this is far from being the case, for there is nothing but a few scattered tufts of grass, and a species of ranunculus, which is of so acrid a nature that the cattle will not eat it. The prevailing feature of the country is aridity, and concealed rocks cover a great part of it. Shrubs seem to be almost absent, but the scattered mamanee trees are every where conspicuous.

It was now evident that their guide had taken them a wrong route, having pursued that leading across the island; they therefore changed their course, and took a direction to the northwest, crossing the country for an eminence, where Mr. Castle, (the proprietor of the mill,) formerly had a station. When they reached it, they enjoyed a fine view over the distant forest, with the bay of Hilo and the sea beyond: the day being clear, the whole extent was distinctly visible; even a small vessel, which had sailed for Oahu, was seen going out of the bay.

They chose their encampment just above this eminence, under a projecting ledge of lava: close by there were several pools of water Such pools form in the compact lava; and where this rock occurs, water is to be met with at intervals, while in the porous lava none is to be found.

On the 13th, they set out at an early hour, and passed a belt where the vegetation became very rich, and the variety great, particularly on the sheltered banks of the ravines. Among the plants were several Compositæ, two or three with decussate leaves, Pelargonium Douglasii, five or six species of ferns, several Rubiaceæ, grasses, and other small plants.

About three miles beyond this, they reached a cave, where they intended to leave the natives and baggage. It was difficult to induce the former to come up even thus far, on account of the cold; but being here in the vicinity of wood, they were enabled to have a fire to keep themselves warm: water was also at hand. This cave was a convenient rendezvous, and sufficiently near the top to allow them time to reach it and return in a day. Some of the natives had gone down to a larger cave, three quarters of a mile below.

A few wild cattle were to be seen in the distance; but, according to the report of Dawson, their guide, they ought to have heard from this position cattle lowing in every direction.

On the 14th, one of their guides was sent off after a bullock; Kanuha, the chief, having granted permission to the party to shoot one.

Dr. Pickering, Mr. Brackenridge, and Billy Lilly, set out for the summit. When about three miles above their rendezvous, and having the high hill of red scoria to the south, they entered upon a plain, of many miles in extent. On reaching this, the vegetation of temperate climates almost at once disappeared, and an Arctic flora succeeded. This plain is made desolate by stones, gravel, sand, scoria, and boulders: a few scanty blades of two sorts of grasses (Aira and Panicum), and one or two stone-mosses, were all the verdure, if such it may be called, that was seen. The whole plain resembled the dry bed of some great river over which the water had passed for ages. There was no appearance of lava streams or clinkers, as on Mauna Loa. In the distance rose six peaks, around whose bases were rough blocks of lava, while towards their tops scoria of a red colour, with gravel, prevailed.

On their way, they passed through a gap to the southeast of the three terminal hills, where stood the stone pen, said to mark the place where the Rev. Mr. Bingham was once lost. The terminal peaks were found steep and very fatiguing to ascend; and when they reached the summit, they took shelter under a pile of stones—the same that Douglass speaks of. They were unfortunate in the weather, as a cold, cutting, and strong wind blew from the southwest, sweeping over these peaks with great force. The water in the bags froze in a few minutes in the bright sunshine. Their man Dawson, alias Billy Lilly, soon became weary and exhausted: he was so stiff, that it was with difficulty they could get him to move down to the base of the mountain. The lee side of the mountain, was a sheet of ice for several hundred feet down the peaks; the weather side on the contrary, was covered with minute icicles pointing to the wind, which, on being walked over, were detached in numbers.

In the early part of the day, Mauna Loa was in sight; but when they reached the summit, the atmosphere became hazy, and consequently their view of the country around was very indistinct. The terminal crater of Mauna Loa, however, was still perceptible.

The highest peak of Mauna Kea is the southernmost; but our gentlemen did not visit it, proceeding to the western side of the mountain, until they obtained a view of the slope to the northwest and north. The lake spoken of by Mr. Goodrich, which lies in the direction of the highest peak, was not visited.

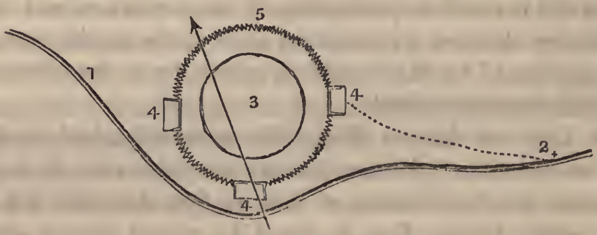
Mauna Loa and Mauna Kea differ essentially, both in form and apparent composition. Mauna Loa, as has been seen, is one mass of lava streams for the distance of four or five thousand feet from its summit; while Mauna Kea is found to consist almost entirely of scoria without any craters, unless the conical hills spoken of can be so considered; which is probable, for they are represented as cup-shaped on top. Vegetation on the one ceases at about seven thousand feet; while on the other it is continued to twelve thousand, and a few scattered plants may even be found within a few hundred feet of the top of Mauna Kea. The plants also differ: the mamanee occupies a belt eleven thousand feet high, while none of this plant is to be found on Mauna Loa.

On their return, they determined to proceed to the lower cave, where the natives had taken refuge.

On the 15th, they concluded to descend, after making a tour on this same level, where they found the ground as barren as on the route by which they had ascended. Small herds of cattle were seen, but at a great distance apart: these have now become shy, from having been hunted by Spaniards with horses from California, which were imported for the express purpose of carrying on systematically the business of killing the cattle for their hides. These hunters would soon have exterminated them.

The golden plover is very abundant on the plain, as every where else; but is said to quit the islands in the breeding season. No geese were seen on this mountain; but many small birds appeared as high up as the mamanee trees. They also saw hawks, which, by a perversion of language, are called "crows."

They then went towards "Ned's House," (now deserted,) and took the path leading in a southeast direction, along the margin of the woods. This was the route that Douglass followed, when he left Ned's House, on the morning of his death. In about three quarters of an hour, they arrived at the pits; in one of which he was found dead. They are situated in an open clearing, in the centre of which is a low marshy spot, sometimes containing water, which the cattle come in search of. The annexed diagram will give an idea of the locality. These pits are covered with raspberry and other fragile bushes; which are covered again with soil, and the hoofs of cattle imprinted on them, to deceive.



SKETCH OF CATTLE-PITS.

1. Path leading from Ned's House. 2. Place where Mr. Douglass left his bundle and dog. Track towards the pit in which he was found with the bull, gored to death. 3. The pool of water. 4. The three pits. 5. The fence which surrounds the pool and compels the cattle to pass over the pits.

The locality of these pits is in a dell, with banks sloping on both sides: the one to the northwest is about twenty feet high, while that to the southeast is about thirty feet. On each side, both above and below, thickets close the dell.

These pits are about seven or eight feet long, and four feet wide, and are walled up: they are placed broadside to the water.

There were many circumstances attendant upon the death of Douglass, leading to the suspicion that he had been murdered by Ned, at whose house he had breakfasted. The general character of Ned gave rise to a feeling that such was the fact, he having been a runaway convict from New South Wales. It seems somewhat singular that Mr. Douglass should have laid down his bundle and returned after passing the pits; and it is remarkable too that his servant, who had parted from him the same morning, should also have perished.

Ned's conduct afterwards was not a little suspicious, for he mentioned he had warned Mr. Douglass against the dangers of these pits, and had accompanied him to within a short distance of them. So strong were the suspicions against him, that a post-mortem examination took place by Drs. Judd and Rooke; but nothing could be elicited, for all the wounds were such as Mr. Douglass might have received from the animal. Few deaths could be more awful than that which he is supposed to have suffered.

Bullock-hunting seems to partake somewhat of the dangers of the chase of wild beasts, and has much of its attraction. Many stories are related of natives having been tossed, gored, and carried on the animal's horns for hours, and from these reports the natives are easily alarmed with the appearance even of a half-tamed animal, as we had abundant reason to observe on our way up Mauna Loa.

A story was related of a native, who, having prepared a pit, succeeded in entrapping a large bull, but became so excited at his success, that he slipped and fell in himself; however, being armed with a knife, he succeeded in killing the animal: when discovered both were dead.

Mr. Castle had three ribs broken, and Ragsdale, our old guide, a leg fractured, while hunting; and many other rencontres, partaking too much of the marvellous to be repeated here, were told me.

They encamped for the night in an old bark hut, in the line of woods. The 16th was rainy, but they continued their way down the mountain in a north-northeast direction, passing through the woods. The path was wretched, and full of mud and mire. The last part of the way the trees became more numerous, and consisted, besides the ohea and koa, of the Ilex, Aralia, Myoporum (false sandalwood), several Compositæ, a Silene, and four or five species of Lobelias, with handsome flowers, mostly blue. Lower down, near a deserted hut, they unexpectedly found a mamanee tree, which they were told had been planted for the purpose of enticing the birds.

From scrambling over roots and through mire, they were much fatigued before they reached Puahai. This village contains a few straggling houses on the table-land: it is distant about two miles from the sea and twenty-five miles to the northwest of Hilo. The natives here appeared to be much more primitive than they were in other places, and had had but little intercourse with strangers. It was with some difficulty that provisions could be procured: a dollar was demanded for a turkey, and four needles for a chicken. No more than three of the latter could be found in the village. Their guide met with considerable delay in getting the necessary quantity to supply the party. At Puahai they were permitted to occupy the school-house, and remained over Sunday.

The coast to the north of Hilo is somewhat peculiar: it is a steep bluff, rising about two hundred feet; this is cut into small breaks, called here "gulches," within which the villages are generally situated, and the natives grow bananas and taro. In some places they cultivate small patches of sugar-cane, which succeed well.

These gulches are ravines, from eight hundred to one thousand feet deep, which have apparently been worn by water-courses: they extend back to the woods, and have made the country impassable for either vehicles or riders on horseback, for no sooner is one passed than another occurs. There is no landing for boats, for all along the shore the surf beats on the rocks with violence.

Mr. Castle's residence was reached the next day: it is about seven miles from Hilo. He has been turning his attention to the cultivation of coffee, and has now a plantation of several thousand trees in and among the coast-craters, which is in a fine condition.

Mr. Castle is a carpenter, and has erected and owns some of the mills on the island.

They walked the next day to Hilo. On approaching it they saw many bread-fruit trees, with the fruit lying under them rotting: for the natives never think of eating it so long as they can get taro, or the sweet-potato; and, seemingly, it has lost its value in their eyes.

On my return to Hilo, finding the survey of the bay had not been begun, we commenced it immediately. Lieutenant Alden, whilst putting up a signal on the north point was upset in the surf, and narrowly escaped being drowned. He was saved by the Kanakas, who were part of the boat's crew. The surf, as I have before remarked, is too heavy to allow a boat to land on this shore.

An accident also occurred to the launch, while watering, during our stay. Mr. Vanderford, who had charge of her, was passing out of the Wailuku river, off the point of which the boat entered the breakers, and a heavy roller capsized her: being heavily laden with water, she sunk, and drifted out, leaving those who were in her in danger of drowning. Mr. Vanderford could not swim, but a native came at once to his assistance, who, however, would do nothing until he was promised two dollars, which of course a drowning man was not long in doing, when he acted promptly and rescued the officer from drowning.

In order to give the native a lesson as to his conduct in demanding money in such a situation, he was told that he would have received twice as much if he had not made the demand. It is due, however, to this fellow to say, that in all probability he never imagined there was any danger of loss of life; for if these people are at home any where, it is certainly in the surf, enjoying as a pleasure what we from our want of knowledge and confidence in the art of swimming, consider dangerous.

Some account will now be given of the proceedings of the officers left in the Vincennes, and of the festivities which they exchanged with the chief Kanuha and the missionaries.

Lieutenant Carr, who had charge of the ship, was also, with the officers under him, entrusted with the duties of the observatory, including the meteorological and tidal observations. Acting Master Totten and Passed Midshipman May were engaged on the charts.

Among the festivities was one given by the chief Kanuha to the officers. Kanuha lives in a large native house, situated on the south side of the bay, in a pretty location near the beach, and surrounded by large trees, which not only add to its beauty, but afford the shade so important in this climate.

The chief is, like all those of noble blood of these islands, of large dimensions, and might be called a fine-looking man. He is thought to regard his own interest before that of others, and is desirous of making money when and how he can. His wife is equally remarkable among her sex in size. He was dressed in a blue roundabout and white pantaloons, hat, and shoes; his wife and females about the house were chiefly dressed in calico gowns, such as have been before described. Lieutenant Case, Messrs. Waldron and Drayton, and two or three midshipmen, went to the feast or dinner. The hour of dinner was one o'clock. They were received with much dignity in an apartment which occupied the whole house, and was decorated with green wreaths, not unlike our churches at Christmas. This room contained all the goods and chattels of the proprietor, consisting of two bedsteads, good beds and bedding, tapa screens, nests of beautiful camphor trunks, fine mats, common chairs, with several large chests, said to contain much riches. The visiters were presented by Kanuha to his wife, her sister, and his five daughters: the former were robed in neatly-made black silk dresses, with high-topped combs in their heads. Kanuha's youngest daughter, however, seemed to make the most impression. She and her sisters were dressed in painted-muslin dresses, white stockings, and shoes; their heads were tastefully ornamented with the valuable feather-wreath, before spoken of, and a garland or wreath of a carmine-coloured flower, natural to the island; in their hair behind were enormous high-topped shell-combs; a red silk sash, and a sweet-scented evergreen garland thrown over their shoulders, hanging nearly to the ground, completed their costume. During the presentation, the females took off their evergreen scarfs and wreaths, and placed them upon our gentlemen, quickly getting others for themselves.

The attendants were in great numbers; each of them had one of these wreaths hanging from one shoulder to the opposite hip.

The table was spread with a white cloth, and just enough plates to accommodate the guests. Our gentlemen, however, insisted that the host and hostess, with their daughters, should sit down with them; and knives and forks being brought, they all joined the feast. The dinner consisted of pig, pork, roast turkey, and luaud fowls, sweet-potatoes, taro, &c.; the meats were divided into eight courses, and most of them were deliciously cooked; for dessert, they had watermelons and bananas. The entertainment went off well. At three o'clock part of the officers returned on board, while the rest went with the young women, by invitation, to bathe.

A few days afterwards this compliment was reciprocated, Kanuha and his household dining on board. They were highly delighted with the attentions and ceremonies, which were all quite new to them, as neither the missionaries nor residents ever receive natives at their table, not even the king. Their behaviour was quite decorous, and they seemed to enjoy every thing that was set before them, particularly the wine.

Pea and his family were also guests. Pea is the king's agent, and has charge of the fish-ponds, although he is not chief of the district: he speaks some English, and is under the patronage of the missionaries; he lives on the Waiakea side, in a large grass-house, near the fish-ponds. The latter cover many acres, and have a great many fine mullet in them, very few of which are caught, as they are reserved for the king or his representative Pea, and his family. From this cause, the fish have multiplied to a great number, and are in very fine order for the table.

Kanuha is the representative of Governor Adams, who is the ruler of the five districts of Hawaii, of which Hilo is one. Adams had been in Hilo shortly before our arrival, but was not able to remain, and is so enormously unwieldy, that it is with difficulty he can move about. Kanuha collects all the taxes, acts as magistrate, and from all accounts is a very energetic one.

I have before spoken of the fruitfulness of this side of the island of Hawaii: the sugar-cane grows here in abundance, and of a large size; coffee succeeds well, as do indigo and the tacca, from which they make a quantity of arrow-root.

For the manufacture of sugar, Governor Adams owns a small mill, in charge of two or three Chinamen; but it is in a wretched condition. It is worked by a small stream of water led from the Wailuku river. The quantity of sugar made in the year 1840 was about thirty tons; but with a well-adapted mill, and under good management, a much larger quantity might be made, for much of the cane is now suffered to rot from want of facilities to grind it. The natives now understand its culture well, and each has a small patch. If a demand was created for sugar, the cultivation might be greatly extended. The cane comes to perfection in twelve months. There is certainly a large field open here for enterprising individuals, as much of the land now lying waste in the neighbourhood is admirably adapted to this cultivation, and might be obtained on lease from the government for a small price.

Mr. Castle has a mill, also, about seven miles north of Hilo, which he uses, I was told, to great profit, although it is but a small concern.

The only extensive plantation of coffee that I heard of was that of Mr. Castle, which, however, is not yet old enough to produce crops. Some isolated trees in gardens at Hilo have yielded eight or nine pounds of coffee each; and the calculation is, that the average yield of each tree will be equal to that amount.

Mr. Goodrich, the missionary who preceded Mr. Coan, was very desirous of introducing the culture of sugar-cane and coffee, and became very active in promoting it. With the assistance of the natives he planted a large number of coffee trees, and was bent upon instructing them in the mode of cultivating both. He also erected a small sugar-mill. I regretted much to hear that his successor viewed all these improvements in a far different light, and, not content to allow the trees to fall into neglect, he actually took the trouble to root them up, in order to arrest the progress of the improvement of the natives in their culture.

I walked round the garden with the missionary, and saw all the vines, fruit, and ornamental trees, to which his predecessor had paid so much attention, and in which he had taken such pride, going to waste. One would have thought that the spirit of his calling would have dictated a more worthy and enlightened course. I never was more satisfied with the folly of such a step, than when the question was asked me by an intelligent native, "Why the missionaries no like grow sugar-cane and coffee?" I could not but believe that the intelligent lady of the establishment, with her numerous scholars, would have been well employed in superintending the garden, and that it would have proved a source of recreation as well as of profitable industry to all concerned.

The districts of Hilo and Puna are embraced under the same pastor, the Rev. Mr. Coan. It is the largest charge in the group, and according to the last census, contains twelve thousand inhabitants. In 1840, seven thousand of these were reported as communicants, forming twenty separate congregations, all of which are under the charge of native catechists, and are visited quarterly by the missionary for inspection, instruction, discipline, and the Lord's Supper. All the communicants meet yearly at Hilo.

Being much engaged with the natives, I had a fair opportunity of observing their improvement in religious knowledge; and I regret to say, that it is not such as I anticipated from the accounts that were given me, or equal to what it ought to be from the exertions of their pastor; for, while I cannot but condemn the course he has pursued in rooting up the coffee plantations, and overturning the good works of his predecessor, I must do him the justice to say, he is untiring in his clerical duties, and his field is one of constant labour, both of mind and body.

In giving an account of the wants of his parishioners, he includes the following, viz.: lawyers, doctors, teachers, artists, agriculturists, manufacturers, preachers, and, above all, money.

The schools were in the first place composed of adults and children, and numbered five thousand scholars; but now they are confined to children, between two and three thousand of whom attend school, being one-sixth of the population.

With regard to the population of this district, I have no positive proof of its decrease. Children are, indeed, said to be few, but the numbers that are reported as attending the schools show that there is as large a proportion of them as in other countries.

There is at Hilo a boarding-school for boys, under the care of Mr. and Mrs. Lyman, which was established in 1836. This school is sustained by annual grants of the American Board of Commissioners for Foreign Missions and by lay donations.

The number of scholars at the time of our visit was fifty-three, fifteen of whom had just been received, and seventeen had been lately sent to the high-school at Lahainaluna. Twelve more were preparing to join that school. The annual expense of each scholar is from sixteen to eighteen dollars: the boys raise about one-fourth of the food they consume. They cultivate a little sugar-cane, which was estimated to be worth fifty dollars the last year. The boys eat at a common table: the dormitory is eighty feet long, by twenty-eight feet wide, and immediately over the school-room; each bed-place is partitioned off into a small room, with mats, six feet by four. The whole is extremely neat and clean.

The boys in this school appear more cheerful than any others I have seen in this group; all of them look remarkably healthy, and, indeed, robust for these islands. They are fed upon poe, one of the most nutritious articles of food, and thrive proportionately; they were, in fact, the largest boys of their respective ages that I saw on the islands.

Through the kindness of Mr. Lyman, I was present at an examination of the scholars: sacred geography and arithmetic were the two branches most dwelt upon; the exercises in mental arithmetic would have done credit to our own country, for they were quite as proficient in them as could possibly have been expected. I was much pleased with the arrangements of the dormitory, eating-rooms, hospital, and with the appearance of the "farm," or few acres they had under cultivation. It was very evident that system and good order prevailed throughout. The dormitory, particularly, appeared to me well calculated to promote health, and give notions of comfort foreign to the ideas of a native.

Mr. and Mrs. Lyman seem quite competent to the charge, particularly the latter; for one cannot but perceive the hand of the mistress pervading throughout. This and Mrs. Coan's school for girls, are decidedly the best-conducted establishments, I saw in the Pacific. I cannot pass by the latter without adding a few words.

Mrs. Coan had been kind enough to ask me to appoint an hour to attend the examination of her pupils, or to come when I could. My employments placed it out of my power to select a time, and I took advantage of her general invitation to drop in when I was quite unexpected. I was very kindly received, and found her with all her scholars seated around, some hard at work with the needle, and some reading. My entrance occasioned little or no disturbance, either to the lady or her scholars; and the regular routine of the school went on. It gave me great pleasure to see what the industry, talent, and zeal of my countrywoman had accomplished; for by her untiring assiduity this school had been established, and is kept up. The whole care devolves upon her of maintaining, clothing, and educating these children; and the only aid she receives is through the donations of parents and strangers, and what little the girls can earn by sewing for the storekeeper.

The accommodations for this school are far inferior to those for the boys; and I must say, I felt some astonishment that the Board of Managers had not given it a helping hand. When it is stated that Mrs. Coan has young children of her own, without servants to whom she can trust them, it will be seen that the task of taking under her charge twenty-three native girls for education, clothing, and food, is one of no ordinary labour. She is one of the most useful of the missionaries; and were it not for the less liberal notions of her husband, would be much more so. I could not but perceive that his interference in the matter of this school is detrimental to the progress of the scholars in civilization: when this is the case, it cannot advance their progress in true religion.

The number of district schools in Hilo and Puna, is said to amount to one hundred; but of these I saw only one, which was under Mr. Wilcox, a teacher attached to the mission. This was kept in the old church. The numbers in attendance varied from sixty to eighty, consisting of all ages between five and fifteen.

I was in the habit of passing this building almost daily, during the latter part of my stay, and frequently was much amused at the behaviour of the scholars and their teacher. These little boys are for the most part nearly naked; but what they wanted in clothes they made up in curiosity, and on my passing on Kanuha's white horse, out they would come without the consent of their teacher. On one occasion, I was not a little amused at his attempts to restrain them, through which a kind of hurry-skurry ensued, as though so many rats were escaping from a cage; all the teacher could do, escape they would; and when he ran to one door to close it, they would nimbly seek the other, until none were left but such as he had tumbled over. I could not help laughing at this scene. This will give some idea of the difficulties to be sometimes encountered here in teaching, although I would not have the reader suppose that such is the case always.

During our stay at Hilo, I visited the Rainbow Fall: it is about a mile and a half from Hilo, and is well worthy of a visit. The Wailuku river, which I have mentioned as dividing the village of Paneo from that of Hilo, here descends about one hundred and twenty feet into a circular basin, formed apparently by the caving in of the lava, with which the whole country is covered: the strata of sand and clay has in places become undermined, and has left the ledge over which the fall shoots, projecting beyond the walls of the basin. This has the effect to bring the water in broad relief, and the height is sufficient to dissipate it into foam before it reaches the quiet and secluded nook below: this causes a fluctuation in the quantity of spray that is constantly arising, which being agitated by the breeze, throws it about in various directions, and with a bright sun, causes innumerable rainbows to be seen, from those of great brightness to the most delicate tints. The walls showing the basaltic formation add much to this effect, and might almost lead one to fancy the basin had been built by fairy hands, to enchant the visiter.

J.J. BUTLER N.Y.

WAILUKU FALLS, HAWAII.

The missionaries often make visits to this beautiful spot in the evening, and one of the first places of interest that they point out to a stranger are these falls. The basin into which they fall is also a favourite resort of the natives for bathing.

The tacca, from which the arrow-root is made, is not cultivated; although it grows wild all over the island. It is gathered and prepared by the natives; but they are not sufficiently careful when they dig up the large roots, to replace the smaller tubers in the ground. From this neglect, the plant is on the decrease. I was told that attempts were making to cultivate it: it grows well in the upland regions, in the poor soil, covered with fragments of lava, which is unsuited for any other culture.

Their mode of preparing the tacca for use is simply by first washing, then scraping and straining it through fine leaves. After standing awhile, the fecula settles, when the water is poured off. The fecula is then made into small cakes with the hand, by which operation it is freed from the remaining water; and it is then placed in the sun to dry. The manufacture of this article is generally limited to the quantity necessary for furnishing each of the females with a calico frock. This of course does not amount to any very great quantity, in a commercial point of view; but will yet be considered large, when the manner in which it is gathered is considered. I was informed, that the quantity shipped to Oahu yearly, was two hundred thousand pounds; and that the price paid for it was two or three cents a pound, in goods. At Honolulu, it is sold at a profit of one hundred per cent. to the shipper.

Indigo might be made a profitable culture; for it grows wild in many parts of the island, and in great luxuriance. It is naturalized at Hilo, where I learned that some experiments had been made, which leave little doubt that if it were cultivated, it would be found to be equally valuable with that of the West Indies.

Sandalwood, it is well known, was the first article that brought this people into notice, gave importance to the islands, and tempted foreigners to visit them. The chiefs, finding they had a store of treasure, believed it to be inexhaustible; and were tempted, by their own cupidity and that of their visiters, to cut it without stint. The course of this trade led to all sorts of tyranny and oppression by the chiefs towards their dependants. The trees have been for some years tabooed; but this plan was adopted too late to preserve any of large size. Those which were not cut down for sale, it is said were destroyed by the natives, to prevent impositions being practised upon them. Not unfrequently, the chiefs would despatch their dependants to the mountains, with nothing to eat but what they could gather from the forest of ferns, the core of whose trunk supplied them with a scanty and precarious subsistence. These hardships were enough to cause whole tracts to become waste. It will be a long time before the remainder of these trees are large enough to become an article of commerce.

Mr. Brackenridge on his return from the mountain passed from the volcano to the sea-board at Papapala. He found the whole country to the southwest of the crater a flat barren waste of smooth lava, mixed with fields of drifted scoria, and with bundles of capillary glass, or Pele's hair, hanging to the few stunted tufts of Silene and Compositæ. This character continues to within six miles of the sea, when the lava becomes more rough, and bushes of Metrosideros and Sophora (mamanee) succeed, and extend to the edge of a precipice, whose height was estimated at six hundred feet. This precipice is faced with loose blocks of lava, thickly overgrown with bushes and trees. Among these was an amaranthaceous shrub of great beauty. From the base of this precipice to the sea-cliff, is a flat plain of smooth glassy lava, with some rents and crevices. In these grew the Agati grandiflora, which here assumed a prostrate habit, Daphnes, and some rubiaceous shrubs, and several grasses. Against the cliff, which is perpendicular, the sea breaks with great violence.

Mr. Brackenridge succeeded in procuring a few shells, among which were some Patellas, a Nerita, a Trochus, and Chiton. He estimated the distance from the volcano to the sea at fourteen miles, in a south-southwest direction.

He left the sea after two o'clock, and did not reach the volcano until eight or nine in the evening, having been obliged to feel his way back with a pole, to avoid the rents. This part of the island is uninhabitable, in consequence of its being devoid of water as well as soil, and not a single native was seen during the whole day. A few wild-cats and one goat were all the animals that were seen.

On the morning of the 23d, Messrs. Brinsmade, Drayton, Brackenridge, and Midshipman Elliott, took their leave of the Recruiting Station, with an allowance of two biscuits. After a very fatiguing walk, they reached the volcano at dark. Midshipman Elliott the next morning departed for Hilo, with my despatches for the ship.

On Christmas-day, the ingenuity of the consul procured a turkey for the party, which was trussed and cooked in a steam-vent by one of the natives.

Having procured guides and natives to carry the provisions which they had obtained from those going to the mountain, they concluded to leave the volcano on the 28th, for the lava plain. They first struck it the same evening, but not having time to halt, they passed to Panau, a distance of nine miles, and on their way found several very interesting mosses and ferns.

After passing the night at Panau, on the morning of the 31st, they set off for the first outbreak of May 30th, 1840.

The first flow of lava which they saw was that to the eastward of Moku-opuhi: it consisted of a bed of smooth lava in the centre, with many cracks, and here and there sulphur strewed around, from which the fumes were issuing in great quantities. Pieces of pumice as large as a man's head were not uncommon, and of the colour of ashes. These extended about three miles in length, by one-third of a mile in width. This stream of lava was fifteen feet above the general level, and appeared to have been vomited forth through a chain of vents in a highly heated state, spreading destruction around, and leaving not a vestige of the forest remaining, although it covered a space of about two miles square. Scoria which had been pressed or had run off to the edges, had overthrown all the bushes and trees with which it had come in contact; these remained unconsumed, proving conclusively that the scoria had been much less heated, or had cooled so rapidly as not to have injured the vegetation.

The direction of the course of this stream was east-northeast, through a dense forest. Owing to the great roughness of the field, they were not able to walk upon it: its margin was equally impassable, owing to the entangled state of the bushes and trees, which had been pressed together by the lava. Taking a parallel course with this eruption, they suddenly came upon a pit-crater, which is named on the map "the Old Crater." This they found to be one hundred and fifty feet deep, and covered with bushes; its diameter is about one mile. Towards the centre, steam was issuing from some small cracks. They now ascended part of Moku-opuhi, but found themselves soon on the edge of another pit-crater, the deepest they had yet seen: the walls of this appeared to be of more recent date than the others, for the north part of the hill bounded it, and it was supposed to be eighteen hundred feet deep.

The old bank to the south was clothed with bushes: the part of this which they ascended proved very treacherous to the footing, and occasioned no small panic, as it gave way underneath their feet, threatening them with instant destruction.

On the 1st of January, they pursued some of the steam-vents, until they reached the Pahuhali road. Here Mr. Brinsmade left them, to proceed on his way to Hilo, where he shortly afterwards embarked for Oahu, with his health (as he wrote me) quite re-established, notwithstanding the fatigue and exposure he had undergone. To his agreeable disposition on the journey, and his kind attention to us during our stay in these islands, we feel ourselves greatly indebted.

Messrs. Drayton and Brackenridge continued their route to Pahuhali, where they procured a guide to take them to the lava stream. Pahuhali is a small village situated one and a half miles from it. They soon reached the great flow, which had spread destruction throughout its course, leaving nothing standing that came in its way. It was from one to three miles wide: down its middle was seen the long channel or rent from which the stream had poured forth, running for the most part smooth, though occasionally in wrinkled and twisted forms, the scoria lying on the outer extremities of the flow, as though it had been borne on the surface of the molten mass, and thrown off on one side.

After surveying about five miles of its extent and to within three of its termination at the sea, they returned to Pahuhali, passing through an extensive bamboo-brake in the forest, many of whose stems were five inches in diameter. The next day they returned to the ship at Hilo.

The district of Waimea is situated on the northwest side of the island. So much of the soil of this district as lies along the coast, though rich, is badly watered, and seven or eight miles in the interior from Kawaihae Bay, it becomes exceedingly rocky and barren. The amount of the good land is supposed to be about one hundred square miles, and the greater part of this lies on the eastern side, where it is well watered. The face of this district combines hills, valleys, plains, and mountains.

The high land to the eastward of Kawaihae causes an almost perpetual calm. This mountain region is rocky, and has a burnt appearance until the eastern side of the mountain is reached, when a dense forest and a most luxuriant vegetation succeed.

On the south are Mauna Kea and the barren lava plains. The latter lie, as we have seen, between Mauna Kea and Mauna Loa, where desolation reigns. In this plain is said to be the remains of a pathway, upwards of a mile in length, of flat stones, leading to the temple of Kaili, before described in Messrs. Peale and Rich's journey.

The climate of this district is, upon the whole, unpleasant, particularly at Waimea, in consequence of the trade-wind, which is exceedingly strong, bringing with it a mist towards sunset. This wind rushes furiously down between the mountains which bound the valley of Waimea, and becomes very dangerous to shipping in the bay. It is called by the natives "mumuku," and is foretold by them from an illuminated streak that is seen far inland. This is believed to be caused by the reflection of the twilight on the mist that always accompanies the mumuku.

The productions of Waimea are the same as those of the other districts, but it abounds also in timber of good size and quality for building. This was the famous sandalwood district, whence Kamehameha procured the cargoes which he sold for the Canton market. As I have before remarked, there are now no trees left larger than mere saplings. The niau, or bastard sandalwood, is plentiful, and considered as a fine wood for building.

Waimea was also the principal place of export for hides, tallow, and beef. Of these articles only a small amount is now exported, owing to the taboo on cattle. Leather is here tanned in sufficient quantities to meet the wants of the domestic manufacture, and there are many trees having astringent barks, adapted to the use of the tanner.

A species of morus abounds in the forests: from this, a tapa is made that is highly esteemed, and which is exported to other parts of the island.

The cultivation in this district is much affected by the annoyance of caterpillars, which prove very destructive to the crops.

Waimea enjoys frequent communication with Honolulu, which affords the best market in the group. Besides, there are three or four stores, kept by foreigners, for trade and barter.

In 1830, Waimea was first brought into notice by Governor Adams, who took up his residence there for the purpose of taking the wild cattle, that had become extremely numerous. While he remained in it, there was much activity and life: all trades found employment; roads were made, and ox-carts travelled a distance of fifty miles. Now, since the taboo has been laid, the place is comparatively deserted; and unless the cultivation of the soil be resorted to, it will, before many years, become a barren waste.

During the period of its prosperity, many of the habitations of the natives were improved, and they advanced much in civilization. Some of them own horses and cattle, and are industrious; but the mass, who have lived on this precarious employment, and found their subsistence in that way, have become, since it ceased, more indolent than before.

In this district there are forty-two schools; half of these are for adults and half for children; all are taught by native teachers, excepting two, which are under the instruction of the missionary, the Rev. Mr. Lyons and his wife. In these there are about four hundred children and five hundred adults.

The population is registered at six thousand five hundred, of whom four thousand seven hundred and fifty-four can read; about one-fourth of this number write and understand some arithmetic; nearly four hundred study geography. The number of communicants is two thousand eight hundred and fifty-six.

From a comparison of births and deaths, the population would seem to be decreasing. Of the former there were registered in 1839 one hundred and sixty-nine, of the latter two hundred and thirteen. Of marriages there were about fifty in the year.

Infanticide does not exist in this district, nor is intemperance a common vice; ava, made from fermented potatoes, is considerably used, and also tobacco.

The diseases are fevers, inflammation, and scrofula.

The opinion generally prevails, that the natives of the Sandwich Islands have an abundance of food, and are not exposed to any hardships; but this I found to be extremely erroneous; for, with the exception of chiefs, and those immediately connected with them, they often suffer as much as the poor of other countries. As civilization advanced this suffering seems to have increased, partly owing to the decrease of food, and partly to the diminution in the authority of the chiefs. Many were formerly obliged to labour for the chiefs, by whom they were in turn supported; these are now compelled to trust to their own resources for support, and seldom can be brought to work until they are driven by necessity.

The Kohala district lies on the north point of Hawaii, and is divided from that of Waimea by a range of mountains. The soil on the leeward shore is barren from three to five miles inland. On the windward shore it is of good quality quite to the beach. The face of the country is regular, gradually ascending from the coast to the summit of the high lands.

Kohala, the residence of the missionary, the Rev. Mr. Bliss, is the principal place in this district. The view from that place is pleasing; in front is a fine prospect of the ocean, with the island of Maui in the rear; the ground gradually rises from the shore to the volcanic peaks of Mauna Kea, tipped with snow; while on the right and left are extensive forests and uncultivated fields.

In this district it is estimated that there are fifty thousand acres of good arable land, much of which is fit for the plough, and suitable for the growth of sugar-cane, Indian corn, potatoes, the mulberry, and the other productions of the country. The country inland, especially, is well suited to the culture of the common potato. It is also well adapted for grazing, but is now a waste. The natives only raise sufficient taro, sugar-cane, and sweet-potatoes, for their own use, and a very small patch suffices to supply their wants. Some of them attempt to carry a small quantity of their produce, on their backs or in canoes, to Kawaihae, for sale, but this is of little account. One of the natives, however, has been induced to begin the erection of a sugar-mill.

Little has been done by the inhabitants towards the improvement of their dwellings: these are very small and often exceedingly filthy: the doors are from two and a half to three feet high. A few attempts have been made to erect larger houses, and to improve the quality of the thatch; but the people do not seem inclined to change their former modes of life.

To give some idea of the state of these people and their wants. It is admitted by all, that licentiousness prevails to a great extent among the people, even at present, but to a far less degree than formerly: then promiscuous intercourse was almost general,—men were living with several wives, and vice versa. No improvement in this respect had been made, until the missionaries began their labours. To them this nation owes its moral code, and the enactment of laws respecting marriage. A native's idea of luxury does not extend beyond poe and fish, with which he usually seems satisfied, and when they are obtained ceases all exertion. To overcome this inertness, it is requisite that they should, as some few do, feel artificial wants, which cause them to look about for employment. Even these are so few that they are soon satisfied. It is said a native may be supported in the Hawaiian Islands for two or three cents a day: on some of the islands they receive no more than seventy-five cents per week, and even this is paid to them in tickets, entitling them to goods to that amount from the store of their employer, who pays them in this way at an advance of fifty to one hundred per cent.; this brings the value of their labour for the week (six days) down to twenty-five or thirty cents. This is all the inducement the commercial men or foreign residents hold out to the natives to work.

The population of the Kohala district consists of six thousand four hundred; and during a year and a half it has diminished between four and five hundred, owing in part to emigration. As to the other causes of decrease, if they exist, there are no facts to show it.

The schools are not attended with any regularity: sometimes they are crowded, at other times thinly attended. This is attributed to the want of proper teachers, and on the part of the parents to a want of interest in the education of their children. About one thousand two hundred children are regarded as scholars in the different schools; one hundred of these are taught in the station school, under the care and personal superintendence of the missionaries. At the last examination of these schools, eight hundred were present, four hundred and sixty of whom are able to read, several can write, and a few have made some advancement in mental and written arithmetic. Of the adults in the schools, there were one thousand one hundred who could read intelligibly.

The church was organized in this district in 1838, and in 1840 there were nine hundred and fifty who professed Christianity, though it is believed that all are not Christians.

Mr. Bliss states that the people of Kohala are intemperate in the use of tobacco, and that he has known some deaths from this cause. He, however, bears testimony, that there is some reformation in regard to this debasing habit.

The diseases are very similar to those mentioned in other places, with the exception of several cases of decided consumption which have been met with. The climate is believed to be, upon the whole, more healthy than other parts of the island, and the weather is generally cool, with a bracing air.

On the 12th of February, I witnessed an interesting sight,—the chase of blackfish, of which a school was seen in the afternoon in the bay. Upon this, the natives who were fishing, and those on shore, put off in their canoes to get to seaward of them: when this was effected, they began making a great noise, to drive the fish in; and finally succeeded in forcing many of them into shoal water, from whence they were dragged on the beach, when about twenty of large size were taken. I measured one, which was eight and a half feet long. The whole scene was animated, and the fish seemed completely bewildered and exhausted from fright. They afforded a fine feast to all the inhabitants of the bay, besides yielding plenty of oil, of which they are very fond. The moment a school of porpoises is discovered, it is their usual practice to drive them in, gently at first, but when they are sufficiently close, a loud clamour begins, in which old and young of both sexes join.

Mr. Drayton was, with the exception of Dr. Pickering, the last to visit the crater. On the road to Keaui, the former examined a curious cave, called by the natives Pariorii, which is said to have been one of the dancing-halls of the attendants of the goddess Pele. This legend also points out the drums upon which the music was performed. These are hollow cones or pillars formed by the lava blistering up, and remaining hollow: when struck, they give a deep sound, not unlike that from a large drum. The cave is said to have been much curtailed in its dimensions about a century ago.

At all the small places along the coast there are some petty officers, mostly connected with and appointed by the missionaries. Besides the religious duties they perform, they are likewise tax-gatherers, have a good deal of authority over the people, and were found to be the greatest extortioners our gentlemen met with.

At some of the houses, the natives were seen to be very much afraid of the tax-gatherers, and when any of them made their appearance, all merriment would cease; those who were indulging in a pipe or cigar, would at once put them aside, and all seemed under restraint.

The native women are generally found employed, either in plaiting hats from the flowering stock of the sugar-cane, or making mats from the bleached leaves of the pandanus.

At some of the houses where Mr. Drayton stopped, the women were dressed as they are represented when dancing, in the figures of Cook and Vancouver's voyages; they are still permitted to dance, but the song called hoori-hoori is forbidden on account of its indecency.

Dr. Pickering was the last who visited the crater of Kilauea. He passed towards the lava stream by the way of Pahuhali, having John the pilot as his guide, and spent the first night about three miles to the south of that place. The inhabitants were found to have returned to their place of residence, and were again cultivating the ground.

He crossed the recent lava near its upper part, and found it overlying the soil, about twelve feet in thickness, having a surface resembling the "black ledge," with the friable vitreous crust before remarked. Towards the margin of the stream he found many trees, two feet in diameter, which the lava had flowed around and burnt off. The road passed between two patches of lava, and had not been burnt as the natives had reported; crevices, however, passed across, and divided the road. After exploring these parts, Dr. Pickering proceeded to Kaimo, which was found to be a large village, scattered along the beach for one and a half miles. Cocoa-nut trees were observed to be more numerous here than at any other place on the island.

They here found a well-built school-house, kept by a native teacher. This place has seldom been visited by foreigners, and the consequence was a very great curiosity to see the strangers. The proportion of children was larger than usual.

From Kaimo, Dr. Pickering passed along the coast, which is formed of lava that breaks off suddenly, and leaves a perpendicular cliff, from thirty to sixty feet high, against which the sea breaks with violence. Along this coast houses are rarely to be met with, and when they are seen it is at those points where, from accident or other causes, there is a breach in the lava.

Owing to the porous nature of the lava, the dwellers on the shore are at times much distressed for water, and resort to various devices to obtain it. In some places they use the leaves of the ti plant (Dracæna) fastened together; also boards set obliquely, with calabashes underneath, to catch the drops of rain; and in other cases the calabashes are set to obtain the drippings from the roofs.

Dr. Pickering reached Panau, and afterwards the patches of the recent eruption which lie in the vicinity of the pit-crater of Alealea-nui, and found them unaltered since they had been seen by me. What seems remarkable, there was no earthquake felt at Hilo before, during the time of, or after the eruption. It has been mentioned, that some slight shocks were felt in the neighbourhood of Nanavalie, but they are reported as being very frequent and violent at Kealakeakua Bay, on the opposite side of the island, though much more remote from the scene of destruction than Hilo.

Two of the missionaries were once on the black ledge, looking down on the burning lake, when an earthquake took place which was felt over the whole island: no change took place in the lake, or elsewhere in the crater, excepting that some pieces of stones were shaken down from the surrounding walls.

From all the information I could obtain, the causes of the earthquakes do not appear to be connected with the action of the volcanoes. The accounts, however, are contradictory, and depend principally upon native testimony, which is not to be relied on in such observations. It is to be hoped, that the resident missionaries will endeavour to devote a small portion of their time to the interesting phenomena of these eruptions.

Dr. Pickering reached Kilauea on the 22d of January, where he found the large lake, according to his estimation, still about thirty feet below the rim, to which height it had again risen. If this estimate was accurate, it would prove a rapid formation of lava, for only ten days had elapsed since we had seen it many feet lower. About 9 P. M. of the same day, a large part of the southern bank fell in at once, producing a great light, and surging to and fro for some minutes, the surface of the fluid rising sometimes even with the rim.

According to the native account, the crater is more active at night than in the day, but this probably arises from its greater apparent brilliancy.

The small or Judd's Lake, was still overflowing in all directions, and this action had continued for the last ten days. According to Dr. Pickering's account, it was not as active as on its first outbreak. A vast quantity of lava had been poured out since our last visit, and there was a very perceptible increase of it in the crater.

I have before remarked the great difficulty of retaining a knowledge of the situation and relative position of things, on first descending on the "black ledge." This was evident from Dr. Pickering's not recollecting objects which must have been seen by him.

The way he accounts for this is, that every thing at first was so novel, and excited so much wonder and astonishment, that it made no lasting or distinct impression; but after proceeding for some time, this appears to have worn off, and the eye became accustomed to the scene; for on descending from the black ledge to the bottom of the crater, he found the way quite familiar, and every toppling rock was precisely in the same position. The bottom of the crater had been entirely overflowed during our absence, which made it more even, and the travelling more easy.

The new lava was of four or five different varieties, as if each overflow had been of a different kind. The variety that seemed to predominate was quite thick and solid, and its crust had something of a metallic or leaden lustre; the solidity of the layers seemed to be in proportion to their thickness, and where this was five or six feet, the central parts were compact and nearly destitute of vesicles.

On first entering on the lower lava, Mr. Colvocoressis and the Doctor found it was so hot that they were fearful they could not proceed; but on advancing they found the heat did not increase, and by avoiding the small lake, which was then overflowing, they had no difficulty in reaching the larger one.

The surface was, as has been before remarked, about thirty feet below the rim: they were to the north of the great lake, and from that side of the cauldron the jets were thrown up. Walking up to the edge, they found it was impossible to look at the glowing pool for more than an instant at a time, on account of the heat and glare on the face and eyes, that made it necessary to retreat almost immediately a few paces backward. The more distant and darker part of the lake appeared little less glowing. The noise, which has been represented by former visiters as so terrific, and the absence of which I have before remarked, was so trifling during this visit that it was not even regarded by them in conversation. In this place Dr. Pickering says they remained some ten minutes, but truly remarks, "It may have been more or less; for, to look on the tottering banks, seemingly so inadequate to hold a fluid like this, to see it glowing with almost a white heat, just above the surface, and the current directing itself towards them, and to reflect upon the falling in that had occurred the evening before; added to which, Judd's Lake might, by a change of its overflow to a contrary direction, have cut off all retreat." It was indeed no place to take note of time.

That variety of lava which is destitute of a vitreous crust, is found on the black ledge alone, and none of it was observed in the lower pit. Noises of all kinds were carefully attended to, and if not heard were expected and referred to the crater itself: these sometimes proceed from the rolling down of small pieces of lava on the black ledge, making a pattering kind of noise, by no means pleasant.

Dr. Pickering found a new route of descent into the crater, and one that he deemed the most easily accomplished. This was on the south-east side, near the sulphur-bank.

While in the crater on the black ledge at night, there is often a deceptive appearance of a rising storm, from the darkness produced by the overhanging cloud.

The old crevices have been found to be the only ones that give out steam.

Though volcanic action is and has been so rife in this group of islands, and so many appearances of it are to be seen on the surface, both in the crater shape, and also that of lava crevices and jets, yet there are but few that ought to claim the name of volcanoes. Those that attract most attention are Mauna Loa, Kilauea, and Hualalai, as being in present action, and the great crater of Haleakala. These have already been described sufficiently in the foregoing pages.

Cone-craters, or hills of scoriaceous lava, are found throughout the group, sometimes on the sides of the larger mountains, at others isolated near the coast. Many of these are composed of fragments of lava and sand. They are likewise to be seen in the terminal craters of Mauna Loa and Haleakala, and do not appear to have ever discharged any fluid lava, but seem to owe their shape to the successive discharges of the loose materials. They are frequently in a lineal direction, as will be observed by inspecting the map of Hawaii; but this will give little idea of their number. If reports be true relative to Hualalai, hundreds may be seen from its summit, like excrescences on its sides.

One of the most striking features of this island is the difference in the formation of the two great mountains, whose height so nearly corresponds. The form of Mauna Loa is unique, and has been increasing, from the overflow of its terminal or pit-crater, and may perhaps be entirely formed by the boiling over of this, for upon reflection this would not seem impossible, but, indeed, quite probable; and one is irresistibly drawn to this conclusion on ascending it.

The extent of the lava stream flowing over the surface is very great, and has been supplied by most copious springs; the recent flow, for instance, covered an area of twenty square miles with a thickness of twelve feet on an average. The height of Mauna Kea has been increasing from the effects of the cone-craters, of which there are now nine on the surface of its flat top: thus while one gives out a molten mass, the other sends forth scoria.

The pit-craters are also represented on the map. They have not been the seat of volcanic action, yet from their extraordinary formation, they are deserving of that name: many exhibit a flow of lava into them. The mode of their formation seems very simple, and is just the effect that one would suppose to arise from a sudden undermining; but that they should always form nearly a true circle, with perpendicular walls, is remarkable, and cannot be easily accounted for.

As will have been seen, there have been copious eruptions from the sides as well as from the terminal crater of Mauna Loa, and among these may be reckoned that of Kilauea on its flank. It was proved satisfactorily to my mind that the craters have no connexion whatever with each other. An instance has been stated, where none apparently existed between Judd's and the large lake in the crater of Kilauea, although they were only two thousand feet apart, and it is equally evident that Kilauea has none with the top of the mountain. The eruption of 1832, from the terminal crater, and the one that has taken place since our visit, is sufficient proof of this. All these flows tend constantly to swell and increase the bulk of this mountain.

It has been remarked already, that a great deception in relation to the height of these mountains occurs when they are first viewed from the neighbouring sea. This is more particularly the case when the weather is clear; and the impression was hardly removed from my mind even after the fatigue and labour encountered during our visit to Mauna Loa. I still could not help wondering how they could possibly be as high as I had found them by actual measurement.

In addition to the information regarding the Hawaiian Group, which has fallen naturally under one or other of the preceding chapters, several miscellaneous matters attracted our notice, which require to be spoken of before we take our final leave of them.

Mr. Coan obliged me with the following account of the influx of the sea at Hilo, on the 7th of November, 1837. A similar occurrence, it will be recollected, took place at the island of Tutuila, in the Samoan Group.

At about seven o'clock, P. M., the sea at Hilo was observed to retire far below its usual low-water mark. In a few moments afterwards the water returned in a gigantic wave, rushing to the shore with great velocity, and breaking upon the beach with a noise like a peal of thunder. All the low grounds in the neighbourhood of the beach were instantly submerged, and a large number of houses were swept away. So sudden and unexpected was the catastrophe, that many of the inhabitants were engulfed in the flood, and compelled to struggle for their lives. The sea remained upon the land about fifteen minutes, when it retired beyond the line of low water, and after a short interval, returned again, but with less violence. It afterwards continued to vibrate for a time, gradually decreasing at each oscillation, until it attained its usual level.

The scene of distress which this phenomenon produced was great. Hundreds of natives were at a meeting near the sea-shore, when the wave rushed upon them, and left them struggling amidst the wreck of their worldly effects. Some of them were carried to sea, while others were dashed upon the shore, surrounded by the fragments of their houses, which had been broken to pieces, together with the timber, frames, calabashes, &c.

Cries of distress came from all sides, as well from those who were struggling for life, as those who had come down to their relief. Parents were rushing to and fro, looking for their children, husbands for their wives, children for their parents, each inquiring for the other, with wailings and hallooings. The whole, combined with the loud roar of the sea, rendered the scene one of thrilling interest. Fortunately, an English whaler, the Admiral Cockburn, of which James Lawrence was commander, was lying in the bay at the time. He in a most praiseworthy manner lowered his boats, and kept them cruising about the bay, in search of the natives, many of whom were picked up, wearied and exhausted, and by this timely aid their lives were preserved. Not a canoe was left on the shore to assist in this work.

The master of the Admiral Cockburn affirms that the water ran past his ship at the rate of eight knots an hour, and that the soundings were reduced from five to three and a half fathoms, which left a great part of the bay dry.

At Oahu this phenomenon was likewise noted by Dr. Rooke, who has given an account of it in the Hawaiian Spectator, Vol. I., January, 1838. The time of its occurrence, as given by him, was six o'clock, P. M., and the sea continued to vibrate until the next day at noon. The time of commencement at Oahu preceded that at Hilo by half an hour.

It appears, from the facts that have been stated relative to a like phenomenon at Tutuila, that although the two were not coincident, yet they were so closely allied in point of time, as to leave no doubt of the same cause having produced both. It is certain that the phenomenon took place first at the Samoan Group, and supposing that the two watches by which it was noted were both correct, as the difference of longitude is thirteen degrees, the elapsed time from the first wave at Tutuila to that of the observations at Oahu, allowing for the difference of longitude, was two hours, thirty minutes. The actual distance is two thousand two hundred and fifty miles, on a course N. 20° E., which would prove that the wave must have proceeded from south to north at the rate of nine hundred miles an hour. It would also go to prove that the wave which was felt at Hilo, and on the north side of Maui, was a returning wave, the difference of time having been an hour; and what is remarkable, its extent seems to have been confined to a very small belt, as it does not appear to have been felt at Kauai. There was no recoil or return wave on the north side of Tutuila. Its breadth, therefore, would seem not to have extended beyond one hundred miles.

By comparing the velocity of its rise and fall, we find that at Tutuila it exceeded that at Oahu. At the former place the rise and fall was nine and a half feet in two minutes, while at the latter it was only two feet a minute. It is remarkable that it should not have reached above high-water mark on the south side of the Hawaiian Group. The centre of the wave seems to have passed in a line over Maui. The southern side of that island was more affected than that of Oahu, but the wave on the north side seems to have been larger and more destructive, for the small village of Kahului, in the district of Wailuku, was entirely swept away.

The inhabitants of Kahului, on seeing the sea retiring, rushed to the reefs with great joy to secure the fish, but before they could reach them the sea-wave came rolling in, like an extended wall, to bury and destroy all their habitations, or sweep them away. Only two lives, however, were lost there, while at Hilo there were twelve persons missing. The rise at Hilo, according to a mark on the boat-house, was found to be eleven feet above ordinary high-water mark.

The weather was somewhat similar, and was at both places rather lowering.*

I afterwards made inquiries on the coast of California whether this rise and fall of the sea had been observed there, but did not succeed in obtaining any information.

There was a similar phenomenon in the year 1819; but, from all accounts, it appears to have been less violent.

Earthquakes are quite common on Hawaii: they appear to be, for the most part, local; thus, they are occasionally felt at Maui, but I heard of none at Oahu or Kauai.

The following are those observed at Hilo since July 1832, which the Rev. Mr. Lyman furnished me from his memorandum, viz.:

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* On comparing the times of this great rush of waters at the two points, viz.: the Samoan Islands and this group, we find them almost coincident with the earthquake of Chili, that happened on the 7th of November, 1837; how far they are to be imputed to it, is a subject of interesting inquiry that it is not in my power to pursue in this place.

| | | |
|---|---|---|
| June, | 1833. | Two slight shocks. |
| October 3d, | " | Shocks in the night; one slight. |
| " 13th, | " | At 3 P. M. a smart shock, motion up and down. |
| February 19th, | 1834. | At 6 P. M. a shock which shook down stone walls, stopped clocks, upset bottles, and threw milk out of pans but half-full. Undulating motion north and south. |
| " " | " | At 9 P. M. another, but a slight shock. |
| May 14th, | " | Between 2 and 3 P. M. a severe shock. |
| August 3d, | " | Between 3 and 4 A. M. a severe shock. |
| March 23d, | 1835. | At 9 A. M. a slight shock. |
| " 26th, | " | At twenty-five minutes past 6 A. M. three shocks in quick succession. |
| July 21st, | " | Three shocks during the day. |
| September 6th, | " | Between 2 and 3 A. M. a slight shock. |
| In the year | 1836. | There were none felt. |
| June 20th, | 1837. | At forty minutes past 6 P. M. two shocks. |
| January 4th, | 1838. | One severe shock. |
| " 29th, | " | At 10 P. M., there were three shocks in quick succession two heavy, the third light. |
| July 9th, | " | A slight shock in the morning. |
| October 16th, | " | A jar, accompanied with a noise, resembling the discharge of a cannon. |
| Nov. 5th, | " | One shock in the morning, and two in the afternoon. |
| " 6th, | | One shock in the morning. |
| " 7th, | " | A smart shock at midnight, one at 3 A. M., and another at four. |
| " 8th to 13th, | " | Slight shocks were constantly occurring, and on several of these days it was thought the ground was never free from motion. |
| December 4th, | " | A slight shock, but decided and distinct. |
| " 9th, | " | A slight shock. |
| " 10th, | " | A slight shock at 4 A. M. |
| " 12th, | " | A slight shock. |
| " " | " | At 1 P. M., a severe shock, attended with all the phenomena of that of February 1834. The motion of the earth was such as to render it difficult to walk or stand: the motion was up and down. |
| April 7th, | 1839. | At midday a smart shock. |
| February 1st, | 1840. | Half-past 1 P. M. a smart shock. |
| May 5th, | " | At 4 P. M. a slight shock. |
| September 5th, | " | At 10 P. M. a slight shock. |
| October 14th, | " | At 9 P. M. a slight shock. |
| December 18th, | " | At 5 A. M. two severe shocks. |
| February 18th, | 1841. | A slight shock. |
| March 18th, | " | Severe; felt at Maui. |

Making in all fifty shocks in eight years.

The usual motion or jar is like that produced by the firing of distant artillery, or the falling of a heavy body on the ground; to this is added a tremulous motion when the earthquake is slight.

On the 3d of March the instruments were all embarked, and the observatory duties broken up.

On the 4th of March, at 9 P. M., an attempt was made to get under way, but the land-breeze failed. We made another attempt the next morning, but were again obliged to anchor near the end of the reef. I mention these circumstances, in order to show the difficulties that sometimes occur in getting to sea from this port. This is in consequence of the land-breeze frequently failing near the shore, so that a vessel is sometimes becalmed for more than half a day between the two winds. Fortunately, there is little or no current here, and, therefore, no danger to be apprehended, although it is a disagreeable situation to be placed in.

As respects the bay of Hilo, I cannot but view it as a safe anchorage. We were detained there about three months, and never had a gale strong enough to ride to our anchors, though these were the winter months, December, January, and February. At times, however, there was a considerable swell rolling in, so as to make it uncomfortable on board ship. The weather we met with was not so rainy as I had been led to expect from the accounts given me, and during the month of February we had some of the most delightful weather I ever experienced.

Provisions can be obtained, though not in abundance, and the markets are not well supplied. The prices are the same as those at Honolulu, although the demand is not so great. For wild cattle we were asked thirty dollars. Kanuha, the chief, has the character of wishing to impose upon strangers: I must, however, do him the justice to say, that this imputation seems undeserved. Like all the rest of the natives, he will ask double; but it is only requisite to bargain for the articles required, and for services beforehand, and to insist on them complying strictly with their engagement; when this is done, no difficulty will be experienced.

The best landing is at Waiakea, which gives its name to the bay, although it has been called Hilo and Byron's Bay. The latter name was conferred on it, in compliment to Lord Byron, by Kaahumanu; but the native appellation cannot be set aside, and the bay is now scarcely known among the natives when called Byron's.

Excellent water is to be had in abundance, and with great ease, within the mouth of the Wailuku river; but it requires some care in passing in and out the river when the surf is high.

Although I have spoken of the landing on the eastern side of this bay as being the best, yet it is feasible to land on the beach in proper boats. Wood is also to be had here, and at a much less price than at Oahu. There is another inducement, which makes it a desirable place for vessels to recruit at—there are no grog-shops as yet.

The rise of the tide is three feet—high water full and change at 1 P. M.

The morning previous to our sailing, I learned much to my surprise that the Rev. Mr. Coan had received many complaints from the natives, of the destruction of the sugar-cane by my crew. Although I was well convinced that the complaints were unfounded, as strict orders had been given that no plantation should be touched, I sent Mr. Waldron on shore to inquire into it, and to settle any demands. It turned out as I had expected, that little or no damage had been done, and this fact was evident enough. We were compelled, however, to pay ten dollars, which I cannot but view as a piece of extortion. How far the reverend missionary was aware of its being so, I will not pretend to say; but a little inquiry would have satisfied him that not one-tenth part of the value had been touched, if any. I do not mention this in any feeling of hostility towards the missionary: I would, however, recommend that when complaints are made, they should at once be sent to head-quarters, and not allowed to be heard through any other channel.

After this affair was arranged, I had the gratification to receive a complimentary notice from Mr. Coan, on the behaviour and exemplary conduct of my crew during the whole time the ship was at Hilo.

EDIBLE FERN.

# CHAPTER VII.

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# CHAPTER VII.

## MAUI.

### 1841.

By the 15th of February I found that my long detention at Hilo would place it out of my power to visit the Marquesas Islands, as I had intended. I therefore determined, before returning to Oahu, which I intended should be by the 1st of April, to pass a short time at Maui; and as we had exhausted the field of research on Hawaii, I gave orders to Messrs. Pickering, Drayton, and Brackenridge, to take passage thither in a small vessel, in order that they might have a longer time to explore that island. Dr. Judd took passage in the same vessel, to return to Oahu. It was with much regret that I parted with him, and I feel it my duty here to acknowledge the obligations I am under to him, for the service he performed on this tour of duty. I should have experienced great trouble and difficulty with the natives, had it not been for his admirable management. He succeeded in settling with all of them without any difficulty, when it was once understood that no sort of imposition would be allowed.

On the 5th of March, we succeeded in getting to sea, and at eight o'clock discharged John Ely, the pilot, whom we had found of great use as a guide to the volcano, &c. He possessed a good deal of knowledge respecting the native character, acquired during a sojourn of twenty years among them, and from his conversation he did not appear to entertain much friendship or respect for them.

The longitude of Waiakea Bay was found to be 155° 03′ 00″ W., latitude 19° 43′ 51″ N.

At 1 P. M. the sea-breeze reached us, and soon wafted us beyond the region of calms. We then steered to the westward to pass through the channel between Hawaii and Maui, which is thirty miles wide.

The afternoon was fine, and the snowy peak of Mauna Kea was quite distinct: by running a base line with the patent log, and obtaining the requisite angles, we made its height thirteen thousand six hundred and fifty-six feet.

At midnight, being nearly up with Kahoolawe, we hove-to, to await daylight, as I wished to look for a shoal that was supposed to exist off its southern end. I passed within two and a half miles of that point, and had nothing less than seven and a quarter fathoms water. By half-past nine we had entirely lost the trades, owing to the high land, and, after being becalmed for an hour, we took a light sea-breeze from the southwest, which slowly brought us to an anchorage in Lahaina Roads, abreast of the king's palace.

The island of Maui is divided into two oval-shaped peninsulas, connected by a low isthmus, only a few feet higher than the beach. Although on a first view the peninsulas resemble each other, on closer examination they are found to be very different. East Maui is the largest of the two, and rises in one unbroken mountain ten thousand feet in elevation, which falls almost perpendicularly towards the sea. West Maui has many sharp peaks and ridges, which are divided by deep valleys, and which in descending towards the sea open out and form sloping plains on the north and south sides of considerable extent. The highest peak of West Maui was found, by triangulation, to be six thousand one hundred and thirty feet.

An officer was at once despatched to wait upon the king, who signified his desire to see me in the afternoon. I accordingly had the honour of waiting on him, and was received with great warmth and kindness. I paid him a long visit, in which the conversation turned principally on the business of his islands.

On my way back after leaving the king's house, I was very much amused with the sight of a number of little children, that could but barely creep, crawling into the deep water of the enclosed spaces along the path, and paddling about with as much confidence as if it was their native element, and seemingly more at home than on the land. They reminded me of ducklings. No regard seemed to be paid to them by the older ones or their parents; and it was a matter of surprise to them that I should think it any thing extraordinary. Although these young children could not exactly swim, yet by the movements of their arms and legs they contrived to make progress and keep their heads well above water. I returned on board before sunset, where I found a handsome present of fish, that had just been sent off by the king.

The most remarkable building to be seen as the bay of Lahaina is approached, is the seminary of Lahainaluna situated on the side of the mountain that rises behind Lahaina.

The king's palace is built of coral rock, and is only half finished: it already seems to be in a somewhat dilapidated state, and exhibits poverty rather than regal magnificence. I could not but feel that too little attention had been given to his household by those who have had the management of his affairs. I regretted to see that any change, except for the better, had been effected in the native style of accommodation. His present residence is neither calculated to maintain the respect of his subjects, nor to enhance his importance in the eyes of foreigners. I am well aware that improvements are going on near to and connected with the situation his house occupies, but I believe that these could all have been long since finished, had proper exertions been made.

The town of Lahaina is built along the beach for a distance of three quarters of a mile: it is principally composed of grass-houses, situated as near the beach as possible: it has one principal street, with a few others running at right angles. After the king's palace, the fort is the most conspicuous object: its form is quadrangular, the longest side facing the sea: it is of little account, however, as a defence, serving chiefly to confine unruly subjects and sailors in. The area within is about one acre, and the walls are twenty feet high. By the observations which I made here, it is situated in longitude 156° 41′ 00″ W., latitude 20° 51′ 50″ N.

There are storehouses, which are used for the reception of the king's revenue, that consists of large heaps of tapas. At a short distance from the landing are situated the cottages of the Rev. Mr. Richards and Dr. Baldwin, who act as missionaries here. Mr. Richards, as has been before remarked, is connected with the government.

I had the pleasure of receiving his majesty on board, with suitable honours, accompanied by his suite. They made a very respectable appearance; and although what I had already seen of the king had greatly prepossessed me in his favour, a visit which I paid him before my departure tended greatly to increase the interest I felt for his welfare. Instead of being received in the dilapidated and half-finished palace, I was ushered over a small causeway to a short distance behind it, into his private apartments, and introduced to his wife, who had been quite unwell. She is not acknowledged as queen. She is the daughter of an inferior chief on the island of Hawaii, and the prettiest woman on the island. The king, it is believed, married her from affection, and against the wishes of his chiefs, after they had prohibited his marriage with his sister Nahienaena, as has already been mentioned.

In order to prevent any dispute in the succession to the throne, it was formerly deemed necessary that the king should take all the women of the highest rank as his wives, and all the children born of them were declared and considered as his heirs.

The present king is said to be the natural son of Kamehameha I., and became, from political causes, heir to the throne.

After crossing the causeway we reached a small island: on this was a grass-house of moderate dimensions, surrounded by hibiscus trees, which grow quite low, and made a bower almost impervious to the sun's rays. At the entrance of the house I was met by his majesty, dressed in a roundabout of blue cloth, and white pantaloons. He led the way into the bower, in the centre of which his wife was lying in a clean white hammock, suspended between the trees. Every thing about her was pleasant-looking, betokening care and attention to her comfort, and a degree of refinement I little expected to see. Although unwell, she showed many marks of beauty, and I was much struck with her appearance.

The king told me these were their private apartments, where they could remain undisturbed and free from intrusion. They passed most of their time together, and he pointed out a small hut of ti-leaves that he had constructed for her, in which she had been lying on new-mown grass. The king pointed out the improvements he had in contemplation, but complained that he had not money to carry them on. Although his income is very considerable, in tapas and native produce, and would have constituted great wealth in former times, yet, from the depreciation in the value of these articles, it is now of little value. He has so many hangers-on, that it takes a large amount to supply, maintain, and clothe them, even in the ordinary garments of the island. These circumstances leave the king quite as poor as any of his subjects.

The little domestic scene I had witnessed gave me great pleasure, the more so from being quite unexpected; and I found afterwards that very few are ever admitted to this sanctum sanctorum. I take pleasure in mentioning it, as I had not before given his majesty credit for the domestic virtues, which I am now satisfied he possesses to a great degree, both from the tenor of his conversation and the pleasing picture he exhibited in the last interview I had with him.

His wife is much fairer than the natives usually, and she has not so coarse and disproportionate a figure as seems characteristic of the females of distinction in these islands. Her features, however, were decidedly of the native character. The tone of voice was pleasing and ladylike.

Wishing to inspect the female seminary of Wailuku, which I had heard much spoken of, I went over to it, in company with Mr. Drayton. One of the chiefs was obliging enough to furnish me with a horse for the occasion. We rode along the south shore of West Maui, as it is here termed. This portion of West Maui is rendered susceptible of cultivation by means of irrigation, supplied by numerous small brooks, running from the mountains. A very small portion, however, is thus cultivated; but I should think it could be made to yield large crops of taro and sugar-cane, with very little care.

The leeward side of West Maui is similar in climate to Oahu, and, as was to be expected, the plants were the same.

Most of the habitations we passed were occupied by fishermen. Some large heaps of coral taken from the reef were observed along the shore, which were to be transported to Lahaina, in order to be burnt for lime.

As we approached the east end of West Maui, the mountains kept increasing on the plain, until they formed an abrupt precipice several hundred feet in height at the sea. There the way led up a zigzag road, if road it could be called, which it is difficult for man or horse to pass over. A portion of this path, two or three miles in length, had been worked, and is yet in good repair; but that on the south side has been suffered to fall entirely into ruin, and is the most difficult part to overcome.

The rock of the cliff was basaltic, containing grains of chrysolite, which were also observed in the sand in the beds of the dry streams. No conglomerate was seen.

The greatest discomfort we experienced in this excursion arose from the violence of the gusts that passed by us: the power of the wind was almost violent enough to unhorse us, as it burst in intermitting gusts through the ravines every few minutes. After passing this rough road, we reached the sandy alluvial neck or isthmus, the lowest part of which is only seven feet above the sea. Here the sand is constantly shifting, being thrown up into "dunes," and again dissipated by the wind. On reaching the neck, we turned to the west, and rode seven miles before we reached Wailuku, over a plain nearly uninhabited, and hardly susceptible of cultivation, until within a mile of Wailuku.

The seminary of Wailuku consists of an extensive range of coral and adobe buildings, beautifully situated on an inclined plane, with high and massive precipices behind, in a flourishing village, which shows more of systematic improvement and organized exertion than any place I have met with in the Hawaiian Islands. The fields, also, are better fenced, and the crops more diligently attended to. We were kindly received by the Rev. Mr. Greene, his lady, and Miss Ogden, who have the charge of the establishment, which consists of eighty scholars, between the ages of twelve and eighteen years. Every opportunity was afforded me of inspecting the establishment, and while I found much to commend, there were many things I could have desired to see changed.

In the first place, I was much struck with the appearance of a want of cleanliness in the dresses of the scholars, contrasting so unfavourably with the neatness and cleanliness of the rest of the establishment. Neither can it be expected that they should imbibe cleanly habits, or be able to preserve them, when they are allowed to wear their clothes unchanged from the beginning to the end of the week. The dress consists of the usual loose gown adopted in the islands, and in which these children are allowed to sleep. On Saturday they wash, and on Sunday make their appearance in a white cotton smock, shawl, and bonnet, the latter of their own manufacture. Their dormitory is a long adobe building, with walls two feet thick, divided into compartments twelve feet by ten, each of which acommodates three scholars. More than half of this space is occupied by their bed, which is made of mats laid on a bank of ti-leaves, or sugar-cane, about two feet thick, with a small pillow of about eight inches square. What clothes they had were hung up in the corners, and a scanty supply they appeared to be. Rolls of tapa were laid on the mats, which serve to cover them at night. The only ventilation was through a small window and the top part of the partition-wall, which was left open. I passed into several of these small rooms, all of which had a musty smell, as of decayed or mouldy vegetable matter. It was no longer a subject of surprise to me that the establishment had obtained the name of being unhealthy, or that several of the girls had died.*

While Mr. Greene gives the scholars instruction in the various departments of education, Miss Ogden teaches them all kinds of useful employments, such as spinning, weaving, knitting, sewing, quilting, millinery, &c. She has, also, the superintendence of their eating apartment, and no place could be better arranged than this part of the establishment: every thing has a useful purpose, and one readily sees the practical operation of all that is doing. I had the pleasure of seeing the scholars at their meals, where all was regulated and went according to rule: those who were appointed to "wash up" kept their places while the rest left the table. They made a better appearance at their morning meal than they had done on the day of our arrival, wearing now neat white capes; but I still saw the same frocks. I do not, however, wish to give the idea that they are not in reality clean: they are so beyond a doubt, as I understood they bathed almost every day; but they did not look tidy. Miss Ogden took her place at a small table, whence she was enabled to overlook the whole. Their food is that of the country, consisting principally of poe and fish, and they are occasionally indulged with molasses.

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* I have since understood that this defect has been remedied, the scholars having been provided with bedsteads and bedding, and that no cases of sickness have since occurred.

Baths and walking-grounds are prepared for them, where they can take exercise. The avowed object of this establishment is to educate the daughters of Hawaii as wives for the young men who are educated at Lahainaluna. They are fed and clothed by the Missionary Society, and it is proposed that they shall remain at the establishment until they be married.

One courtship has already taken place by letters; and I was informed these were the first love-letters that had ever been written in this group. I was extremely desirous of obtaining the originals or copies, but was not successful. The correspondence appears to have been carried on under the eye of the missionaries, and the expressions they contained were very common-place.

This whole establishment does great credit to those who are engaged in rearing it up, on account of the method and perseverance with which it is carried on. It is extremely gratifying to see efforts of this kind made, but I cannot help doubting the policy of not allowing any of the burden of it fall upon the natives themselves (the parents). The only argument advanced in justification of this course, was the rather unsatisfactory one, that these people cannot understand and appreciate sufficiently the advantages, to be persuaded to contribute to the education of their children. As far as my own observations went, I believe this to be an error. As long as the children are educated and maintained gratis, the natives will never make any exertions to furnish the means. Some of the natives said to me, on my making inquiry why their children were not at the seminary, that they could not get them there, for all those admitted were selected by the missionaries, and there are no other means of tuition; they also added, that they would be willing to contribute a few dollars for the education of their children, if allowed.

The greatest objection to the system of this school, in my opinion, is that the pupils are not taken at an earlier age, and before their habits are in any way formed, and that it is attempted to educate them exclusively for civilized life as it now is. Taken at too advanced an age, they have scarcely an opportunity of forgetting the life of ease they led while in their savage state; and thus their early impressions remaining still uneradicated, they return almost as soon as they leave the school to their savage state, finding it more easy than to keep up their partially civilized habits; whereas, if they were taken very young, and put under a course of discipline that would make their improvement permanent, and were, besides, taught the way of maintaining themselves as they now are, by useful employment, they would not be so likely to relapse into their former habits, or adopt those of their parents. I have little doubt, that such a course would be a great means of reforming many of their parents, as far as they are susceptible of reformation; for the relation between parents and children is altogether different with them from what it is among us, parents being invariably under the control of the children, after the latter have grown up

The plan of taking the children, as is done, from the dregs of the natives, is, I think, another mistake. The higher orders in a monarchical system of government ought to be more carefully instructed than the others. This principle is admitted by the establishment of the chiefs' school at Honolulu, and I see no reason why it should not equally apply to the children of the petty chiefs, or second class. I am, indeed, satisfied that greater advantages would be derived from such a course, and the school would, in this way, become more popular. Parents of this rank would, also, be enabled to assist in its maintenance, and the lower orders, as elsewhere, would imitate the higher.

I must do full justice to the good fare and kind attentions of Mrs. Greene; and from the appearance of the supper-table, I could readily have believed myself in New England instead of the Hawaiian Islands.

Early the next morning, Mr. Drayton and myself went to breakfast with Mr. Baily and his wife. He is the assistant missionary at this station, and superintends the school for boys. It being Saturday, and a holiday, we had not the pleasure of seeing the scholars.

Mr. Baily had provided bountifully for us, and there was ample evidence here that this was a land of plenty, to all those who exercised ordinary industry.

After breakfast, Mr. Greene was obliging enough to accompany us to see the sugar-mills and taro-plantations, in the valley of the Wailuku. The sugar-manufactory is an experiment of the king, and is now under the superintendence of a Chinese. By some awkward mistake in making the agreement, his majesty's interests were entirely lost sight of, and it is said that he will lose money, although his agents have a prospect of considerable gain. The iron-work of the mill was imported from the United States, and is turned by water-power. The water wheel is badly constructed: it is a breast-wheel, with great loss of power.

There appears but little economy about the establishment: as an instance of this, instead of drying and preparing the cane for fuel, they use wood altogether, which is very scarce, and costs much to transport it. The sugar appears to be of good quality, and with proper attention, the manufacture could no doubt be made profitable. I understood from the Chinese who had charge, that the sugar could be sold at four cents per pound, and that with a proper economy as to fuel, might be reduced to half that sum.

Both the king and chiefs have a desire to encourage the arts and agriculture. Unfortunately, however, after they have incurred expenses, they are obliged to give the sole direction into the hands of those who have nothing but their own interests in view. The consequence is, that in all these undertakings the king and chiefs have found themselves deceived, by listening to foreigners by whom they have been defrauded.

We now rode down the valley among the taro-patches, and over to the Sand-hills. In passing over them we saw some remarkable concretions, resembling large tunnels or broken pipes, which were quite hard, and resembled solid rock interspersed with amorphous sandstone. Mr. Greene, who was with us, could give me no information respecting their formation. Dr. Pickering met with these also, and considers them as mineral concretions, although they appeared to him to resemble those formed by annelidæ, or like beds of sabellæ.

On the isthmus, the sand was drifting like snow, and afforded a good illustration of the rapidity with which it changes its place by the effects of the winds.

In the centre of the Sand-hills, we stopped on a mound of human bones,—a perfect Golgotha. There appears to be no tradition respecting this accumulation of mortal relics. By some it is supposed to have been a burying-place after a battle, for the place where they were found was known to be a battle-ground. Bloody contests, indeed, must have taken place here, if we are to judge from the number of skeletons which are exposed. Some of these are in a state of perfect preservation, and I regretted not being able to transport one to the ship.

Near this place we saw several boys anxiously watching some object, and on getting near them, found they were employed in catching birds. This was done by baiting small sticks, to which a string was tied, and the other end of the string fastened to a small stone: the bird swallows the stick along with the bait, and in attempting to fly off, it pierces his throat, and he is thus secured.

After riding around these plains we returned to Wailuku, where we partook of a sumptuous lunch, and parted under a feeling of obligation for the kind attentions we had received, and the tokens of remembrance from the scholars. We reached Lahaina before dark, after a fatiguing ride.

On our way I heard a rumour that one of the boats had been lost, which made me anxious to get on board as soon as possible. I had been flattering myself that from dangers of this kind we were, at least for the present, exempt; but the report proved too true. Previous to leaving Lahaina, I had despatched Lieutenant Budd, with Passed Midshipman May, in charge of two boats, and it was to one of these that the accident occurred. Lieutenant Budd gave the following account of it.

At ten o'clock, on the 9th of March, they left the ship, when it was blowing a moderate breeze, and steered for the south point of Kahoolawe. After they had proceeded some distance on their way, it fell calm for a short time, and then the trade-wind set in strong from the northward and eastward, and soon increased to a stiff gale, the sea rising to a dangerous height for the boats. Just after doubling the point of Kahoolawe, Passed Midshipman May, in the Leopard, hailed Lieutenant Budd, to report that his boat was sinking; and four of the men were perceived to be baling. Lieutenant Budd pulled alongside, and seeing the boat was settling, ordered the anchor to be dropped. Most of the crew continued to bale with their hats, whilst the rest passed out the most important articles. A portion of the Leopard's crew, who could not swim, were now ordered to get into the Greyhound; Lieutenant Budd intending to land them and return for those on the wreck. The men who were thus left said that the boat was drifting to sea, and wished to be taken off; but this would have endangered the lives of all. Passed Midshipman May, perceiving their unwillingness to remain, jumped overboard and joined them: his example encouraged them to do their best. Lieutenant Budd succeeded in as short a time as possible in landing the men and articles from his boat, and then returned. He found the boat sinking fast, and the officer and men supporting themselves with the oars. The boat was now turning over and over as every wave struck her. Mr. May and the rest of the men were taken on board, and they then returned to the shore, all much exhausted. Lieutenant Budd, seeing that the side of the boat had been stove in by a heavy sea, and the impossibility of saving or being able to repair the boat, left her to her fate, and took such measures as he found necessary for the comfort of his men. Lieutenant Budd deserves much credit for his presence of mind in preserving the lives of the men entrusted to him, as well as protecting them afterwards from unnecessary exposure.

Kahoolawe, the island they were now on, lies to the west of the south end of Maui, and is fourteen miles long by five miles wide. It is uninhabited, except by a few poor fishermen, and is used as a place of exile: at this time, there was one state prisoner confined on it.

Lieutenant Budd concluded next morning to set out in search of the town which he had heard one of his boat's crew, a Kanaka, say that he knew of. After wandering over the rugged face of this barren island for twenty miles, he discovered, to his great joy, from the top of a ridge, a cluster of huts near the water, which they soon after reached. They proved to be inhabited by Kenemoneha, the exile above spoken of, who for the crime of forgery had been condemned to spend five years in exile upon this island. This was effected in a singular manner, and the punishment of the offender will serve to show the mode in which the laws are carried into execution.

The chief, Kenemoneha, treated Lieutenant Budd with great kindness, supplied him with dry clothing, and gave him some of his scanty fare. The village is a collection of eight huts, and an unfinished adobe church. The chief has three large canoes for his use.

In passing over the island, the walking had been found very tedious; for they sunk ankle-deep at each step. The whole south part is covered with a light soil, composed of decomposed lava; and is destitute of vegetation, except a few stunted shrubs.

On the northern side of the island, there is a better soil, of a reddish colour, which is in places susceptible of cultivation. Many tracks of wild hogs were seen, but only one of the animals was met with.

The wife of Kenemoneha resides at Lahaina. She was a great favourite of the king, who, notwithstanding, was determined to let the law take its course, being well satisfied of her husband's guilt.

The only article produced on the island is the sweet-potato, and but a small quantity of these. All the inhabitants are convicts, and receive their food from Maui: their number at present is about fifteen.

Besides this little cluster of convicts' huts, there are one or two houses on the north end, inhabited by old women. Some of the convicts are allowed to visit the other islands, but not to remain.

On hearing of the accident, Lieutenant Carr at once despatched provisions for the party; which reached them the next day, and proved a seasonable supply. After much fatigue, Lieutenant Budd returned to the ship on the 15th.

I visited, in company with some of the officers, the seminary of Lahainaluna, which is, as I have before said, situated on the hill behind the town, and about two miles distant from it. The road thither is partly made by the pupils of the seminary. We found the students at work along this road, making stone walls. Many of them were large boys or young men. Their mode of working was not systematic, and every one appeared to be doing what he thought best: they did not appear to be identified with their work, but seemed more like a rabble. We were received by the Rev. Mr. Andrews, who was kind enough to show us the whole establishment.

On our approach, we noticed an air of neglect, and particularly in the out-buildings. The garden also was in bad order; indeed, nothing succeeds well in it, because its situation is too high for irrigation, which in this climate is absolutely necessary. The soil is composed of a red clay, which in dry weather forms a fine dust, covering every thing, and which the daily winds continually raise into clouds. These circumstances present an obstacle to one of the great objects of the institution, while the scarcity of water prevents the inculcation of habits of personal cleanliness, of which the natives stand in great need.

The object of the institution is, to forward mental improvement and a knowledge of the useful arts, as well as to prepare suitable teachers for the native schools.

This school was established in 1831 on the principal of self-support, and only those who could maintain themselves, were admitted. These were principally adults, and mostly married persons: they even built their own houses, which were of adobes, covered with thatch. The Rev. Mr. Andrews was the first who undertook the charge; and the only expense to the mission was the books, &c., together with the salary of the superintendent. This plan continued to be acted upon for three years, during which time the number of scholars had risen to ninety. In 1834, the mission decided to increase the school, and to put up buildings at their own expense. The Rev. Messrs. Clark and Dibble were appointed to it as instructers of mathematics and philosophy; they were also to be employed in translating and preparing native books, of which none existed at the time, and which were to be printed at the Mission Press.

In 1836, the character of the school was entirely changed, and the self-supporting system laid aside, as was also the reception of adult scholars, none now being admitted over twenty years of age.

In 1837, the present edifice, consisting of a centre building, forty-four feet square, and two wings, fifty by twenty-six feet, were erected, at considerable expense, I was informed, (twelve thousand dollars,) and a class of thirty-six boys admitted, from the various district schools on the island, as boarding scholars. These are lodged in a number of small thatched huts, ten feet square. There are likewise dwellings for the teachers. It was endowed by the king and chiefs with a grant of five hundred acres of land; only fifty of which, however, were capable of being made productive, and but thirty have been cultivated.

Since 1836, when, as has been seen, the system was changed, its usefulness has in a great measure ceased, for the simple reason that the institution in its present form is not required. I look upon the plan as wholly impracticable, and unsuitable to the wants of the natives. In the form it was first established, Mr. Andrews was extremely well adapted to its superintendence; but when it was taken under the fostering care of the Board, few of whom are practical men, they remodelled it, still keeping it under the superintendence of one who, though admirably adapted for its original plan of instruction, was unfitted for the cares of its future operations.

The professors who are associated with Mr. Andrews, are no doubt well qualified for their situations as teachers and translators, but naturally look more to mental improvement than to practical illustration. The latter indeed appears to have been almost wholly abandoned, and instead of carpentry, smithery, and agriculture, being pursued, the two former have been entirely abandoned, and in order to induce the scholars to the latter, they give them a price for their work, which goes to the clothing of the individual, so that in reality this labour is at a higher price than would be paid for it in the United States.

We were shown some of the engravings done by the scholars, but these were of a very rude and inferior description, and at the price paid for the work, cost more than if beautifully done by the best artists in the United States. No one in the establishment knows any thing about engraving, and therefore it seems highly injudicious to have attempted to teach it.

In all the departments of this establishment I saw nothing but ill-directed means, and a waste of funds that might have been avoided by proper forecast, and a full examination of the subject by practical men. The school has passed its meridian, and is now fast going to decay, a fact which must strike every one on a casual visit. The discipline of the scholars is loose and irregular; they are their own rulers, and make their own laws: in this respect it may be called a republican school. The scholars act by committees, and without the knowledge or consent of their teachers, in every thing that concerns themselves and their apartments. As may be supposed, they are left to settle their own disputes, and little discipline of any kind exists.

I had an opportunity of seeing one of the classes reciting to the Rev. Mr. Dibble. We happened accidentally to pass through the large hall or chapel, where this exercise was going on. The reverend gentleman was mounted on a platform, and the scholars oddly arranged on the ends of each of the long benches. A more ragged, dirty-looking set of fellows I have rarely laid my eyes upon in the shape of scholars, or as they are now termed, students of the university. Most of them were dressed in trousers and shirts, the latter partly within and partly without their waistbands. They had no shoes or handkerchiefs, and and as the light colour of their clothes showed spots of grease distinctly, they appeared dirty enough. The exercises were continued, but as they were in the Hawaiian language, it was impossible to judge of their explanations of the questions put to them: they seemed, however, to satisfy the tutor.

I then went to the lower rooms and was shown the process of teaching; among other branches in which they were instructed was music. We next visited the dormitories, which, as I have stated above, were small separate grass-huts. The scholars sleep as they choose, either within or without the hut, and always in their clothes, which I had surmised was the case from their appearance. The whole struck me as being badly planned and loosely conducted: the buildings are much too large and expensive; consequently to keep them in repair, and meet the other expenses of the establishment without additional aid, is impossible; and like all attempts on too large a scale, it must fail.

I am well aware that the gentlemen who have the matter in charge are doing all that they can to meet their own wishes, and the expectations of the community, both at home and in the other islands; but I look upon their exertions as thrown away; for it requires practical men and artisans to instruct the natives, and some plan is essential by which their habits and customs can be changed. I was told here that their character combines idleness and unclean habits; that they are deceitful, obstinate, indifferent to truth, and have no social qualities.

Each scholar now costs the society twenty dollars per annum, seven dollars and fifty cents of which provides them with food; the remainder, twelve dollars and fifty cents is for clothing. But besides this, they are paid twenty-five cents per day when they are allowed to work, which amounts to as much more during the year. Why this premium has been adopted to induce them to work, I could not see; and I look upon it as one of the very worst features of the establishment, particularly when the scholars must see that their labour is frequently of no account, as when employed in building stone walls to enclose lands that are not worth fencing in.

That this institution is not popular among the natives, is little to be wondered at. Many of them complain, as I have already said, that it is impossible for them to get their children there; for to do so, they must be themselves devout members of the church, and first place their children at one of the district schools; while it depends, after all, upon the selection of the missionaries, whether the boys will be allowed to enter.

From this school, of late years, have been taken all the native teachers, and most of them are employed on the part of the government; it therefore becomes desirable to all to have their children educated in it.

There is another circumstance which prevents and interferes with the proper cultivation of this establishment, namely, the want of water, which the native land-owners refuse to allow the use of for the lower part of the grounds. With a very little trouble and expense, this difficulty might be overcome; but there is wanting the inclination, both on the part of the missionaries and government, to effect a change.

It is easy to point out the defects in an establishment, but much more difficult to suggest a remedy. The difficulty is, perhaps, not easily overcome, but I will offer one or two plans, which appeared to me to be feasible, and calculated to give the natives a turn towards becoming a pastoral as well as an agricultural people. The pupils should be taught the care of cattle and the superintendence of flocks, to which pursuit the greater part of the land of these islands is well adapted. A sufficient inducement might be held out for exertion, by giving them a portion of the increase of the flocks, that would recompense them for their care, without increasing the expenses of the society. Above all things, in their manual labour schools the higher branches should not be taught before the pupils are all well grounded in the lower ones; for instance, I can conceive of nothing more absurd and useless than spending the time of both teachers and scholars in studying Greek, as was proposed. Fortunately for the students, however, they could not proceed for want of books. I would not be understood as throwing any blame on the missionaries: there are many errors committed and expenses incurred in conducting a mission, that ought to be looked at with much charity by those who are visiters, as well as by the society at home. Even a slight knowledge of the situation of things will show how difficult it is for the Board of Missions to judge of the expenses incurred in carrying on their operations, and how unwise it is for the managers at home to control their agents, except by some general rules applicable to their duties. The employment of persons in whom they have confidence is the best and only security; and if those who are invested with the power should make a wrong use of it, the remedy is to remove them.

Much discontent has been caused, and the usefulness of the missionaries impaired, by the control which the Board of Missions exercises over their conduct. The restriction on the liberty of the press, and the extravagance complained of, is not justly chargeable to the convention; for, constituted as the Board is, it is impossible it should be otherwise, and the effect naturally arises from employing an irresponsible body. I am well satisfied that harm results to the cause from want of full confidence being extended to those who are engaged in these duties.

Lahaina being the great resort of our whalers in these islands, a survey was made of the roadstead. The chief reason for resorting to this place is, that their crews are more easily kept in order, and have not that temptation to visit the shore that is experienced at Honolulu; besides, provisions are in greater plenty, particularly potatoes, which are raised in abundance on the highlands of Maui.

Lahaina contains about three thousand inhabitants. More order reigns here than in any other town of the same size I have seen in Polynesia. This is to be attributed to the influence exerted by the authorities, and to the absence of foreigners, and their attendant grog-shops.

To Mr. Richards, Dr. Baldwin, Mr. Andrews, and their families, we are much indebted for many kind attentions during our stay.

The Rev. Mr. Baldwin is the pastor as well as physician of the place, and preaches both in the native church and in the seamen's chapel, which has been erected here by the subscriptions of the whaling fleet. This was nearly completed at the time of our visit, and is intended to accommodate about two hundred persons.

The native church is a large building, capable of containing one thousand eight hundred persons, and the usual congregation is about one thousand two hundred.

This district is well supplied with schools, containing between eight and nine hundred scholars. Some of these are under the superintendence of David Maro, the native teacher, and author of several tracts before spoken of.

The district of Wailuku is composed of valley and upland. The soil in the former is extremely rich and well watered; the upland, also, produces good crops when sufficient moisture can be had. Potatoes, corn, sugar-cane, and sweet-potatoes, are the chief products of he windward side of the island.

In some places there are extensive woods, the trees in which are of large size; but the timber is of little value, being either soft and spongy, or hard and difficult to work. Of the former kinds the natives make their canoes.

The district of Kula, on East Maui, although extremely rough and rocky, has a loamy, rich, and productive soil: it produces the finest Irish potatoes, turnips, corn, melons, and wheat. The latter, of an excellent quality, is found growing wild. It was introduced about twenty years before our visit, planted, and not the least attention paid to it; instead, however, of "running out," it has increased. At Malaca Bay there is good anchorage for vessels of any size, and a fine fishery.

The isthmus is too dry to be fit for cultivation: it is in extent about twenty by fifteen miles. During nine months of the year it is a fine grazing country, and feeds large herds of cattle, that are mostly owned by foreigners.

The productions on Maui are the same as those of the other islands: to these may be added a few fruits, as grapes, &c., but these are not raised in large quantities.

In industry and enterprise, the natives of this island have made but slow progress, though there is abundant evidence that they possess both, if properly developed. This is shown in their attempts at cultivation.

The king, in order to foster a spirit of enterprise, proposed to a company of about fifty natives, that each should cultivate a small lot of land, of from one to two acres, with sugar-cane; and that when ripe he would manufacture it into sugar and molasses for one-half, and would, besides, relieve them from all taxation. It was considered that four-tenths of the sugar would pay for its manufacture, and that two-tenths should be equivalent to the taxes. Sixty or seventy acres were planted. The produce was found to be one and a half tons to the acre, besides some molasses.

Both at Wailuku and at Hamakualoa, the natives have shown much perseverance and enterprise in erecting stone churches. These are built by native workmen, and their dimensions are one hundred feet in length, by fifty feet in width. For the construction of that at Hamakualoa, they were obliged to bring the stones, lime, and sand, on their backs, to the place of building. The lime and sand were brought from a distance of two or three miles, and the timber was dragged from four to six miles. In putting on the roof, it fell in twice, after nearly all the timbers were up, and broke them to pieces; but they persevered until they had completed the edifice, which will contain about one thousand people. The whole amount of money laid out was sixteen dollars! At Wailuku the building-stone used was vesicular lava.

The following may give some idea of the duties of a missionary at these islands. Their labours on the Sabbath are, a sermon at sunrise, Sabbath-school at eight o'clock, sermon again at eleven o'clock, Bible-class at one, and lecture at four. On week-days, going to adjacent villages, lectures, schools, and visiting the poor and needy, besides acting as physician for a whole district, which alone is a work of no trifling labour.

In Wailuku, the population is thought to be decreasing at the rate of about one hundred and thirty annually, but no adequate causes are assigned for this diminution. The climate of Maui is healthy, and no diseases prevail. Infanticide may be said not to exist. In speaking with Mr. Richards upon this subject, he mentioned to me that there had undoubtedly been very erroneous computations prior to the last census of 1840; and a case had come to his knowledge in one district, in which it appeared that the deaths had been registered, but not the births: in this case, if the births had been noted, it would have led to a directly contrary conclusion; for, instead of showing three per cent. decrease, it would have given that amount of increase.

I have before stated, that Messrs. Pickering, Drayton, and Brackenridge were ordered to visit Maui. They embarked on board the native schooner Kahalia, and with them went Dr. Judd. They had a long and tedious passage, and instead of reaching Maui in a few hours, as they had expected, they were several days, owing to a strong south-west gale blowing. By this they were obliged to take shelter under the lee on the north side of Maui, where Dr. Judd and Mr. Drayton landed, for the purpose of passing over land to Lahaina.

The north coast of East Maui is a succession of deep ravines, which gradually diminish in breadth as they ascend, and are finally lost on the flanks of the mountains: travelling along the coast, in consequence, becomes almost impossible. Cascades are seen falling in these ravines several hundred feet in height, having little volume of water, however.

The face of Mauna Haleakala is somewhat like that of Mauna Kea: it is destitute of trees to the height of about two thousand feet; then succeeds a belt of forest, to the height of six thousand feet, and again, the summit, which is cleft by a deep gorge, is bare.

During their stay under the lee of the island, the king's schooner sought refuge there also, having been driven from the roads of Lahaina where it is impossible to lie during the prevalence of southwest gales, as vessels are then exposed both to the sea and wind.

The party who landed, and the schooner, arrived about the same time at Lahaina, where our gentlemen were very kindly received by the king and missionaries. They forthwith made preparations for a tour to East Maui. The Rev. Mr. Andrews, his son, and four students of the seminary, joined the party, together with six Kanakas to carry their food. The Kanakas were engaged at twenty-five cents a day, and twenty-five cents more was allowed for their food. The party first passed to Wailuku, where it was further increased by the accession of Mr. Baily.

In the evening they reached the sugar plantation of Messrs. Lane and Minor, which they found one thousand six hundred and ninety-two feet above the level of the sea. These are two very respectable white men, who have married native wives. They are natives of Boston, and have brought their Yankee enterprise with them. Here all the party were kindly received. The plantation of these gentlemen is of some extent, and although the cane grows more slowly here, it makes better sugar than that on the low grounds, which is said to be owing to the former not blossoming. The houses are partly of native construction, and seem well adapted for their uses. The sugar-mill is one of the largest on the island.

Crops of Irish potatoes are very productive here; and corn is abundant a thousand feet higher up the mountain.

The next day, the party set out at an early hour, in hopes of reaching the summit, but it began to rain violently, in consequence of which they took shelter in a large cave, at an altitude of eight thousand and ninety feet. Here many interesting plants were found, among which were two species of Pelargonium, one with dark crimson, the other with lilac flowers; the Argyroziphium began to disappear as they ascended, and its place was taken up by the silky species, which is only found at high altitudes. From the cave to the summit they found shrubby plants, consisting of Epacris, Vaccinium, Edwardsia, Compositæ, and various rubiaceous plants.

On their arrival at the edge of the crater, on the summit, the clouds were driving with great velocity through it, and completely concealed its extent. The height, as ascertained by the barometer, was ten thousand two hundred feet. The driving of the sleet before the strong gale soon affected the missionaries and native students, the latter of whom for the first time, felt the effects of cold. The limit-line of woods was ascertained to be at six thousand five hundred feet.

Some sandalwood bushes were noticed about five hundred feet above the cave. Above the cave the ground assumed a more stony appearance, and the rock became now and then more visible, which had not before been the case. Where the rock was exposed it was found to be lava more or less vesicular, but no regular stream was observed. The surface of the lava appeared to be more thickly covered with earth than that of Mauna Kea, and consequently a greater proportion of soil existed, as well as a thick coating of gravel. Near the summit, bullock-tracks were observed, and likewise those of wild dogs, but no other animals were seen except a few goats.

The crater of Haleakala, if so it may be called, is a deep gorge, open at the north and east, forming a kind of elbow: the bottom of it, as ascertained by the barometer, was two thousand seven hundred and eighty-three feet below the summit peak, and two thousand and ninety-three feet below the wall. Although its sides are steep, yet a descent is practicable at almost any part of it. The inside of the crater was entirely bare of vegetation, and from its bottom arose some large hills of scoria and sand: some of the latter are of an ochre-red colour at the summit, with small craters in the centre. All bore the appearance of volcanic action, but the natives have no tradition of an eruption. It was said, however, that in former times the dread goddess Pele had her habitation here, but was driven out by the sea, and then took up her abode on Hawaii, where she has ever since remained. Can this legend refer to a time when the volcanoes of Maui were in activity?

The gravel that occurred on the top was composed of small angular pieces of cellular lava, resembling comminuted mineral coal. The rock was of the same character as that seen below, containing irregular cavities rather than vesicles. Sometimes grains of chrysolite and hornblende were disseminated. In some spots the rock was observed to be compact, and had the appearance of argillite or slate: this variety occurred here chiefly in blocks, but was also seen in situ. It affords the whetstones of the natives, and marks were seen which they had left in procuring them.

Of the origin of the name Mauna Haleakala, or the House of the Sun, I could not obtain any information. Some of the residents thought it might be derived from the sun rising from over it to the people of West Maui, which it does at some seasons of the year.

Having passed the night at the cave, Mr. Baily and young Andrews preferred returning to the coast, rather than longer to endure the cold and stormy weather on the mountain.

Our gentlemen made excursions to the crater, and descended into it. The break to the north appears to have been occasioned by the violence of volcanic action within. There does not appear any true lava stream on the north, but there is a cleft or valley which has a steep descent: here the soil was found to be of a spongy nature, and many interesting plants were found, among the most remarkable of which was the arborescent Geranium.

The floor of the crater, in the north branch, is extremely rough and about two miles wide at the apex, which extends to the sea. In the ravines there is much compact argillaceous rock, similar to what had been observed on Mauna Kea, retaining, like it, pools of water. The rock, in general, was much less absorbent than on the mountains of Hawaii.

Mr. Drayton made an accurate drawing or plan of the crater, the distances on which are estimated, but the many cross bearings serve to make its relative proportions correct. Perhaps the best idea that can be given of the size of this cavity, is by the time requisite to make a descent into it being one hour, although the depth is only two thousand feet. The distance from the middle to either opening was upwards of five miles; that to the eastward was filled with a line of hills of scoria, some of them five or six hundred feet high; under them was lying a lava stream, that, to appearance, was nearly horizontal, so gradual was its fall. The eastern opening takes a short turn to the southeast, and then descends rapidly to the coast.

At the bottom were found beds of hard gravel, and among it what appeared to be carbonate of lime, and detached black crystals like augite, but chrysolite was absent.

From the summit of the mountain the direction of the lava stream could be perceived, appearing, as it approached the sea, to assume more the shape of a delta.

From the summit the whole cleft or crater is seen, and could be traced from the highest point between the two coasts, flowing both to the northward and eastward. Volcanic action seems also to have occurred on the southwest side, for a line of scoria hills extends all the way down the mountain, and a lava stream is said to have burst forth about a century ago, which still retains its freshness. The scoria hills on the top very much resemble those of Mauna Kea, but the mountain itself appears wholly unlike either of the two in Hawaii, and sinks into insignificance when compared with them.

Although I have mentioned lava streams on this mountain, yet they are not to be understood as composed of true lava, as on Mauna Loa;

none of the latter were seen except that spoken of on the southwest side, and none other is believed to exist. No pumice or capillary glass was at any time seen, nor are they known to exist on this island. On the wall of the crater, in places, the compass was so much affected by local attraction as to become useless.

Near the summit is a small cave, where they observed the silk-worm eggs of Mr. Richards, which were kept here in order to prevent them from hatching at an improper season. The thermometer in the cave stood at 44°; the temperature at the highest point was 36°, and in the crater 71°. After three days' stay, the party returned to the establishment of Messrs. Lane and Minor, and thence to Wailuku. They were much gratified with their tour.

On their return to Lahaina, Dr. Pickering and Mr. Brackenridge took the route through the Wailuku Pass, as it is called, which with its rocky peaks shooting upwards several hundred feet directly above them, reminded them of the deep gorges of Madeira. Some fine plants were collected, and unexpectedly among the most conspicuous was a woody Lobelia, which gave its character to the vegetation. The route did not prove so much shorter as was anticipated, owing to the oblique direction of the valley.

It may now perhaps be as well to say a few words respecting the operation of foreign opinions upon the natives, who are more prone to take knowledge and advice from the books that are circulated among them, than strangers are inclined to believe. Their gambling propensities appear to have been very difficult to overcome; yet, from the simple sentence "Do not gamble" having been printed in the first books circulated among them, that expression has become almost proverbial, and many have in consequence been restrained from indulging in gaming to excess, while some have abandoned the practice altogether.

From the inquiries I made on the subject of their vices, I am satisfied that these have been much overrated by both residents and missionaries, and I fully believe that these natives are as susceptible of correct impressions as any other people.

They appeared to me to be wanting in that national pride which was found a predominant trait in the groups we had previously visited. They speak less of their country than other Polynesians; but Mr. Richards and Dr. Judd both assured me that they felt a certain degree of pride in their respective islands. As an instance of this, it was stated to me that the government proposing to make the island of Kahoolawe a place for convicts, wished to induce the people of the island to quit it; but no persuasion could prevail on them to do so; and it is said that this feeling has existed to such an extent there, that the young women have refused to marry, unless under a pledge that they shall not be required to remove. The people of Hawaii consider themselves superior to those of the other islands; next to them rank the natives of Maui and Oahu, while Kauai is looked upon as the most inferior. It was likewise mentioned that some individuals have come forward to ask to exchange plots that had been assigned to them, for those on which their fathers had resided, or where they were born.

I was much amused to hear that when one of the teachers of the seminary gave out to the class as a theme, "Whether it was right for parents to give away their children," all belonging to it took the affirmative side! It is not to be supposed that their reasons were very strong, but it was said the principal one urged was the difficulty of travelling with them, and procuring food; this practice having prevailed from time immemorial, they no doubt endeavoured to find reasons to justify it.

In the opinion of a native, the most distant relationship or connexion, justifies him in calling on and receiving entertainment. They not only consider that they have a right to partake of the hospitality, but speak of it as a great convenience; so that in choosing a wife or husband, one who has many relations is a more desirable match on this account than one who has few. This custom also causes more intercourse between the islands than would otherwise take place, and their small vessels seldom pass from one to the other, without being well filled with passengers.

Among the visits I paid at Lahaina, was one to the regent Kekauluohi, who receives visiters during certain hours of the day. She lives in a grass-hut near the water, and has several chiefs in attendance on her: she appears to be a good-natured and contented person, and has adopted some foreign customs in her way of living. She is not spoken of as being equal to her sister, Kaahumanu or Kinau.

It has been mentioned, that on our passage from Hilo we had not found the shoal said to exist off Kahoolawe. Receiving authentic information that it really existed, I determined to send two boats, under the command of Lieutenant Budd and Passed Midshipman May, to seek for and examine it. The king, learning my intentions, volunteered to send his yacht along with them. The yacht and boats set out on this expedition, on the 17th of March, with a pilot who knew the ground.

On the same day we took leave of our kind friends, and at noon got under way and stood for Kahoolawe, to pick up the boats under Lieutenant Budd. Owing to the light wind, we did not succeed in reaching the point till late, where we found the king's schooner and the two boats about to enter upon the examination. We, therefore, lowered all the boats and sent them to search for the shoal. It was soon found, and proved to be much nearer the point of the island than was anticipated. It lies a mile and a half off the point, and has one and a half fathoms of water on it. We fixed bearings, by noting which, it may be avoided. Vessels may pass within two miles of the point with safety; but as it is difficult to estimate the distance, it will be better to pass the point at three miles distance, as nothing is lost by so doing. It is remarkable, that this is the only shoal around the Hawaiian Islands that is hidden from the navigator; and even this is situated so near the land that it can scarcely be deemed dangerous.

At nine o'clock, we took up the boats and bore away for Oahu. Passing to the southward of Lanai, though at the distance of twenty miles, we felt the effects of its highlands upon the winds.

Lanai is a dome-shaped island, and appears to have been frequently rent, large fissures being apparent on its sides. It is exclusively of volcanic formation.

The fish of these islands are numerous; and to Mr. Richards and Dr. Baldwin, this department of the natural history of the Expedition is much indebted. Dr. Pickering remarks, that the natives appear to be much better acquainted with the fish of their waters, than are the inhabitants of any civilized port we have visited. A number of new species were obtained; for which I refer to the report on the ichthyology of the cruise.

At Lahaina, bathing and frolicking in the surf are more practised than in any other place in these islands. The inhabitants take great delight in it; and it is said that the king himself is extremely fond of it.

The tide at Lahaina is irregular, being somewhat dependent on the winds: it runs to the northwest generally sixteen hours out of the twenty-four.

During our stay here on the 14th, a slight shock of an earthquake was experienced.

After passing Lanai, I hauled up for Molokai, intending, as the day was far advanced, to lie under the lee of that island for the night. Molokai is about forty miles long and nine miles in width. One-third of the island, towards the western end, is a barren waste, not susceptible of cultivation, except in the rainy season; it has in consequence few inhabitants, who are engaged mostly in fishing. The eastern two-thirds are almost one entire mountain, rising gradually from the south, until it attains an elevation of two thousand five hundred; while on the north, it is almost perpendicular.

On the south side, it has a narrow strip of land, not exceeding one-fourth of a mile in width, the soil of which is very rich, and which contains the greater part of the population. Owing to the want of moisture, however, few plants will thrive even here; resort is therefore had to the uplands, which are found to be susceptible of the highest degree of cultivation.

The amount of arable land, or that susceptible of cultivation, is believed by the missionaries to be one-fourth; but I should be inclined to reduce it to one-eighth, from the report of others and my own observations. Only about one-tenth of this is cultivated.

The population of the island was reported as five thousand, in 1840; eight years prior, in 1832, it was six thousand: during this time, five hundred marriages took place. The data has shown, that the births much exceed the deaths; and the decrease is attributed to emigration, which has been going on for some time. The inhabitants are all poor, and their pastor, the Rev. Mr. Hitchcock, asserts, that there are not ten individuals on the island who have comfortable clothing and sufficient food; and he adds, that there has been no improvement in their dwellings for the last ten years.

The schools on this island are little more than a name; for they have neither regular teachers nor school-houses. One thousand scholars are said to be embodied in them.

The island has been occupied as a missionary station since 1832, and the church contains about three hundred members.

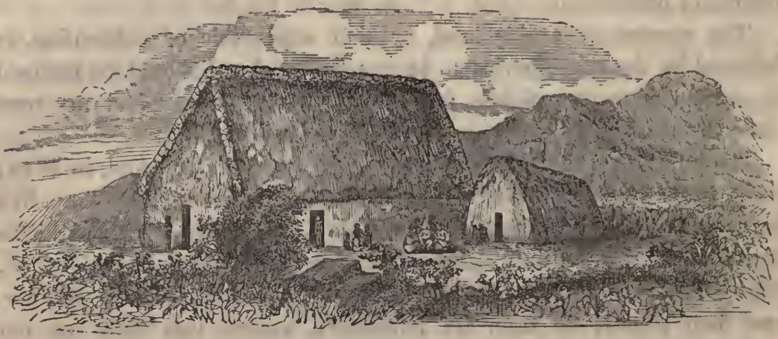
Some efforts are making to introduce the cultivation of cotton and sugar. All other articles are in want of a market; and the distance of Lahaina (about eighteen miles) is found too great, and the voyage thither too uncertain, to derive benefit from it.

There are several small harbours within the reef, on the south side, at Kaluaaha, the missionary station, which are capable of affording shelter for vessels of from sixty to eighty tons.

The formation of Molokai is similar to that of the other islands. Coral rock was reported to exist on one of the high hills. Some of the same was found on the south side of Maui, at a considerable elevation, specimens of which were presented to the Expedition.

On the 18th, we anchored off Honolulu, at an early hour, although too late to enter. The appearance of the island was much more fertile, now that the winter had passed. There being no letters from home, was a disappointment to us all. We were again warmly welcomed by our friends and countrymen.

On the 19th, we went in and anchored in the outer harbour. Until the 23d, we were employed getting off our stores, &c., and on the latter day I was gratified with the arrival of the Porpoise, and was much pleased to find them all well.



NATIVE HOUSE, MAUI.

# CHAPTER VIII.

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# CHAPTER VIII.

## PAUMOTU GROUP AND PENRHYN ISLAND.

1840—1841.

The disposition that was intended to be made of the Porpoise during the winter months, has been mentioned in a preceding chapter; an account of her proceedings in the prosecution of the duties assigned to her, will now be given.

On the 15th of November, as has been before stated, she left Oahu. In addition to her crew, a number of Kanakas were shipped for the purpose of being employed, under the direction of an officer, on one of the coral islands, to bore through the coral rock.

The first shoal searched for was that of Manuel Rodriguez: its supposed locality, in longitude 153° 54′ W., and latitude 10° 58′ N., was passed over, and no indications whatever of it were seen.

All the Kanakas became wofully sea-sick, and were lying about the deck for several days, heedless of every thing; after being out several days, and the sea becoming smooth, they recruited.

On the 22d they had reached latitude 9° 13′ N., when they experienced heavy rains, with frequent and vivid lightning, and constant gusts of wind. The next and following days they saw many birds, indicating a near approach to land. The easterly current was experienced between the latitude of 5° and 8° N., inclining more to the northward of east than farther west. On the 1st of December they passed to the eastward of Walker's Island. On the 3d, they crossed the line, in longitude 149° 36′ W.; and on the 4th, the Magnetic Equator, in latitude 2° S., and longitude 149° 10′ W. They now had the wind from the east, which was light, with calms.

On the 11th, they made the island of Manhii, of the Paumotu Group, and shortly after, that of Ahii, or Peacock Island: the same day they spoke the whale-ship Nassau, of New Bedford, bound to Tahiti.

On the 13th, they made the Rurick Chain.

On the 15th they reached Aratica, or Carlshoff Island, on which Lieutenant-Commandant Ringgold had determined to land the party intended to experiment in boring, consisting of fifteen men, under Lieutenant Johnson, among whom were nine Kanakas and three seamen, the armourer with his forge, and a carpenter.

They had much rain with frequent squalls. Until they reached the latitude of 8° N., the wind prevailed from east-northeast; then from south to east, with frequent intermissions of calms; and from the parallel of 5° N. to 8° S., northeast winds were experienced; to the southward of the latter parallel, northwest and north winds. Lieutenant Johnson, agreeably to my orders, was put in charge of the party to conduct the experiments.*

By the 18th, they had succeeded in completing all the arrangements, when the brig left them in successful operation, to pursue her cruise for thirty or forty days to the windward part of the group.

On the 19th, they made Vincennes and Raraka Islands.

On the 20th, they made Saken Island, which proved low, with but a few trees on it: the greater part of the island is a reef.

The next day they were up with the three small islands to the southward of Saken, which they had been directed to look for and survey. Lieutenant-Commandant Ringgold found and surveyed them, and designated the cluster as the Sea-Gull Group; while to the three islands he gave the names of Passed Midshipman Reid and Bacon, and Quarter-Master Clute. Reid Island proved to be inhabited, and the brig was boarded from it by two canoes. These contained four natives, besides a toothless old man calling himself a missionary, who readily consented to remain for the night on board: he was quite tastefully and well covered with tattooing, in chequered marks, as described on our former visit to this group. The others were not tattooed. The Tahitians on board had no difficulty in understanding them.

The canoes were small and wretched, being only about five feet long and two feet wide. The account these people gave of themselves was, that they had been residing on the island about a year, and had been sent there in a Tahitian schooner, by order of the Queen of Tahiti, for the purpose of raising food or productions useful to man.

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* For orders, see Appendix X.

On the 22d, several of the officers visited the island. Its population consisted of about twenty-five men, women, and children, among whom was the daughter of the old chief, considered by our officers as a very beautiful girl, with fine figure, expressive countenance, and long silky hair: she was sprightly, but I regret to say, was covered with vermin. The children were fat and chubby.

Dip and intensity observations were made here, and observations on shore for time and variation.

The village consisted of about six huts, which were extremely filthy and smelt more like fish-houses than human habitations. All the inhabitants seemed contented on this small and barren isle, which they called Tuinaki, and which is, in every point of view, one of the most uninteresting of the group. The poor creatures, in obedience to their directions, were setting out cocoa-nut plantations, which were seen growing all over the island: the trees were planted in pits about three feet deep, in order to afford them moisture, and to protect them from the winds. A small spring supplied the inhabitants with water.

Lieutenant-Commandant Ringgold, having finished all the necessary observations, proceeded, on the 23d, in search of some islands to the eastward. On the 26th they made the island of Raroia, or Barclay de Tolly, and passed close to it. The position assigned to it on the charts proved to be correct.

On the 27th, they made Takurea, or Wolconsky, with Raroia in sight to the southward: there is a passage between them seven miles wide. The former, Wolconsky, is of an oblong shape, ten miles in circumference: its north end is high and thickly wooded with cocoa-nut groves and other trees: its eastern boundary is partly a submerged reef. There is no opening to its lagoon. It was found to be incorrectly placed on the charts.

On the 29th, one of the Sandwich Islanders died of a severe attack of dysentery, and in the afternoon his body was committed to the deep with the usual funeral ceremonies.

The search after Camboy's and Merril Islands proved unsuccessful. The position assigned to them, longitude 141° W., latitude 15° 13′ S. having been cruised over without any appearance whatever of land.

On the 5th of January, they passed near Taweree, or Resolution Island, but found there was too much surf to land upon it. There were about twenty inhabitants, who, on the approach of the brig, came running to the beach with cocoa-nuts to barter. They appeared to be stout men, and were thought to resemble the natives seen at Clermont de Tonnerre.

Taweree consists of two small isles, together about four miles in circumference: it has three clumps of cocoa-nut trees upon it, but of its south and west sides the greater portion is a bare reef. After surveying it, they bore up for the two groups, and the same afternoon passed through the channel between them, which is a mile wide, with no soundings. The southern island was surveyed: it has a bare reef on its southeast and west sides, with a cocoa-nut grove on the south end. No entrance exists to the lagoon, and no natives were seen. The southern portion of the northern isle is a bare reef, with some high clumps of trees on the eastern side.

On the 6th, Nukutipipi or Margaret's Island was made. It proved to be a small round lagoon island, two miles in circumference, high and well wooded on the north side, with a flat submerged reef on the southeast and east sides. After completing the observations, they stood for Teku or the Four Crowns of Quiros, the island to the westward: it has now five clumps of trees. It had no opening to its lagoon, nor could a landing be effected. No traces of inhabitants were seen on either of the islands.

On the 10th, Lieutenant-Commandant Ringgold made what they supposed to be the island of Archangel, but very much out of place. It is a small lagoon island, of oblong shape, lying northwest and southeast; wooded on the northeast and east, with a stunted growth of trees. No cocoa-nut trees were seen, and the eastern portion of the trees appeared as if burnt. A reef extends off the northwest and southwest sides, with a heavy surf, and there is a submerged reef on the south and west sides. No opening exists, and a landing cannot be effected without imminent danger to the boats. Its native name is Heretua.

The supposed location of Archangel was then searched for, but no signs of land found. Turnbull Island was also looked for without success.

On the 12th, they made the island of San Pablo, in latitude 19° 56′ S., longitude 145° W. This island is higher than those just mentioned: it has several cocoa-nut groves, and natives were seen on the island. No opening was observed into its lagoon.

Lieutenant-Commandant Ringgold now lay-to, for the purpose of communicating with the natives the next day. In the morning early, several of them were seen fishing, and others on the beach, who fled at the approach of the brig; but on being hailed by one of the natives on board, they came from their hiding-places, bringing down cocoa-nuts, and showing a disposition to communicate. Lieutenant-Commandant Ringgold went towards the shore in his boat, with some presents: on the beach he found three men, with five women and a number of children. An old and very savage-looking chief made signs for them not to land, threatening them with spears if this was attempted. Lieutenant-Commandant Ringgold threw them some presents, and received in return a few cocoa-nuts and two large fish, the smallest of which measured five feet two inches in length, and its greatest circumference was four feet four inches. These proved to be excellent food. They were remarkable for their splendid colour, the great size of the canine teeth in each jaw, and a large protuberance over the eyes; the head was without scales, the body being covered with large circular plates, over which the epidermis was very thick and of a rich blue colour, with regular concentric stripes of yellowish white; the fins and tails were striped with straight lines of alternate blue and yellow; the lips were fleshy, and the jaws strong and bony.

The men were of the dark-skinned race, resembling the Feejeeans, of fine form, and crispy hair, with crowns of matting on their heads: the old man had a silvery beard. They would not permit our people to land, and on an attempt being made by a Sandwich Islander, they stood prepared to spear him. Lieutenant-Commandant Ringgold, wishing to avoid collision, ordered him to return.

After searching around this locality for other islands, the Porpoise steered to the northward, for the island of Aratica (Carlshoff). On the 15th they made the island of Tahanea: its south end is a bare reef, but there are trees on the east and west sides. Fires were seen after dark on the island. This, like all the other islands, has small islets around it, connected by low coral reefs, over which the sea in places washes.

Passing in sight of Saken, Raraka, and Taiara, they made Aratica on the 18th, where they found the party all well, and at once began to embark them, which was completed on the 19th. The Porpoise then bore away for Tahiti, two hundred and fifty miles distant, which they made on the 21st, and the same day they anchored in Matavai Bay.

At the time the brig left him, Lieutenant Johnson had succeeded in making a beginning with the apparatus. Considering the novelty of the business, and that all were unacquainted with the uses of the different parts of the machinery, I was aware of the difficulty of the task that would be imposed upon the officer who directed the operation. I had therefore designated Lieutenant Johnson for this business, who, on account of his ingenuity, perseverance, and mechanical contrivance, was considered by me as most suitable for this duty. The undertaking proved fully as laborious as I had anticipated, and Lieutenant Johnson's exertions were worthy of better success. The principal difficulties he had to encounter were the looseness of the sand, and the falling in of the coral stones. Every means were devised to overcome these impediments, but in the attempts the pipes became choked, broke, and were thrown out of the perpendicular. When the impediments in one place were found to be too great to be overcome, it was abandoned, and the work begun anew. The greatest depth to which he succeeded in reaching was twenty-one feet: ten to eleven feet were generally accomplished without much difficulty; but after that depth was arrived at, they frequently did not succeed in getting down beyond one foot per day.

The coral shelf, composed of conglomerates and compact coral rock, seems to have afforded an impediment to further progress. After the breaking of pipes and augers, and the occurrence of various other accidents, principally from the impossibility of maintaining a perpendicular, Lieutenant Johnson began from his acquired experience to hope for success a day or two previous to the arrival of the brig, when the whole was abandoned by order of Lieutenant-Commandant Ringgold, and every thing embarked. I am well satisfied that there is no insuperable difficulty in boring into coral islands; but in the present case the season of the year was somewhat against them, as it caused them to encounter much more water in the soil than they would otherwise have met with. The proper season for such an attempt would be the dry one. Much rain fell during their stay; and although no serious sickness occurred, yet many felt unwell.

To the Geological Report I must leave the details of the boring. Agreeably to my instructions, a specimen of each foot reached was preserved.

These experiments turned out very much as I anticipated, viz: that we should find but little coral sand, and an occasional stratum of coral rock. Since my return, I have seen the results of a similar experiment made by Captain Belcher, on another island, (Hau or Bow Island,) in the same group. They are identical with ours.

Before I close the subject of coral islands, I cannot refrain from making a few remarks, derived from my own observations while I was engaged among them. My opportunities have been numerous, and I have had every facility for viewing to advantage, not only those exclusively of coral formation, but also the reefs that surround the high volcanic islands, which afford the most safe and convenient harbours of the Pacific.

After much inquiry and close examination, I was unable to believe that these great formations are or can possibly be the work of zoophytes; and the arguments by which it is endeavoured to maintain this theory, appear to me to be inconsistent with the facts. I cannot but view the labours of these animals as wholly inadequate to produce the effects which I observed, and I was satisfied that the very appearance of the reefs was sufficient to contradict any such impression. The ingenious theory of Darwin, which has of late been promulgated, and which holds that an equal subsidence and growth are taking place, is alike at variance with the configuration, extent, and general construction of the reefs.

In all the reefs and islands of coral that I have examined, there are unequivocal signs that they are undergoing dissolution. Thus, it will be recollected, that in the first volume of this narrative, I gave various sketches of coral blocks now existing on the top of reefs, and also spoke of the various shelves, soundings, and longitudinal cracks that I had observed. All these phenomena have been since those first observations repeatedly met with. To account for the position of these blocks, it has been assumed that they had been thrown up by the sea; but their positions, weight, and situation, are such as to contradict such an idea. They are found in many cases standing erect on their smaller ends, and have evidently formed an upper shelf, of which they are now the sole remains. In every observed instance, they were at some distance from the outer edge of the reef on which they stand, and they were also seen covered with debris of the coral, that has been mentioned as forming the highest portion of the islands. It would be utterly impossible for any sea to toss so great a weight to such a distance; and if such masses were even broken off from a reef by the action of water, they would undoubtedly have obeyed the laws of gravity, and descended to the unfathomable depths beneath them.

The low coral islands, as far as they have been investigated, both by boring and sounding, have shown a foundation of sand, or what becomes so on being broken up.

The elevated coral islands which we have examined, exhibit a formation of conglomerate, composed of compact coral and dead shells, interspersed with various kinds of corals, which have evidently been deposited after life has become extinct. A particular instance of this was seen at the island of Metia, and the same formation was also observed at Oahu.

The abrading effects of the sea on all the islands and reefs, was evident, for they exhibited throughout a worn surface. Some living corals are indeed found at the surface, but a few inches beneath it the reef is invariably a collection of loose materials, and shows no regular coralline structure, as would have been the case if it had been the work of the lithophyte.

All the coral islands lie within an ocean subject to the effects of volcanic action, and we have no reason to doubt that they would be as liable to be upheaved and depressed by it as those of unquestionable igneous origin. With so great and powerful an agent at hand, it seems to me there is no necessity for resorting to a cause inadequate of itself, and at variance with the facts. It seems almost absurd to suppose that these immense reefs should have been raised by the exertions of a minute animal, and positively so to explain the peculiar mode of construction by which reefs of an annular shape are formed, when in nine cases out of ten they are of other figures.

Those who will examine the charts of the Pacific Ocean, and view the relations which the coral islands bear to one another, as well as the extent of ocean through which they are spread in groups, will entertain but little doubt that many of them which are now separated have at some remote period been joined, and formed extensive tracts of land. They must also be inclined to believe that their alteration and dismemberment have been brought about by the same causes that affect other lands. If this be the case, there would be no difficulty in accounting for the lagoons, as they now present themselves. Before I reached the coral islands, I had derived an impression, from the attempts to explain the manner of their formation, that all the reefs would be found level with the water, and have a uniform surface; but so far from this being the case, they are all irregular and much ruptured, some wholly above the water, others awash, and some again altogether submerged, having various depths of water over them.

As the coral islands have sand and limestone for their base, it would appear possible to account for the formation of the lagoons by supposing that, after the several portions of the pre-existing continent were separated from each other, the outer edge or line of coral, unequally worn by the sea, had become more compact in some cases than in others. Thus, while the border of the island resisted in one place, it might be torn asunder in others, and through the washing influx and efflux of the sea, strata underlying the centre might be carried off into the deep sea in the shape of sand and mud, or in solution. The centre, thus undermined, from want of support would cave in, and form the inverted cone or funnel-shaped lagoon, generally found in the centre of these islands, surrounded by an outer rim, variable in width and elevation.

Actual observation proves that the reefs and islands are undergoing dissolution, for at many points where former navigators have laid down shoals of coral, none now exist. One reef, in particular, noticed by those who visited Tahiti ten years before we did, was found by Captain Belcher, of H. B. M. ship Sulphur, to exist no longer. This officer states that he visited and surveyed the place where it is laid down on previous charts, and that it was not to be found. In speaking of Bow Island, he likewise mentions the fact that several of its points had undergone material change, or were no longer the same,* when visited after a lapse of fourteen years. These remarks refer particularly to islets situated within the lagoon. I could myself quote many instances of the same description; but this would occupy too much space.

I shall, therefore, take leave of the coral islands, trusting that these few remarks may excite a spirit of investigation in others.

Among other duties assigned Lieutenant Johnson were tidal observations, which were continued uninterruptedly, from the 19th of December, 1840, till his departure from the island; but unfortunately, the tide-staff was placed in the lagoon, a place not free from objections, because the tide there has but a small rise and fall, and is much influenced by the wind, that blows the water over the reef, giving less tide and a longer outflowing there; but the flood was distinctly seen, by Lieutenant Johnson, during a fishing excursion at the entrance of the lagoon, to flow in rapidly; and the high tide was correct, for the water on the reef was two feet or more in depth. The record of these observations gives the high water at the full and change of the moon at six o'clock: the rise and fall in the lagoon eight inches, and two tides in twenty-four hours. During our visit to this island I had observed a fall of upwards of two feet, and have to regret that the tide-staff was placed in so unfortunate a position.

Lieutenant Johnson reports the inhabitants as being twenty in number, seven men, eight women, and five children. In this small community they seem to experience the ills of life as well as elsewhere; for of the men, one was aged, another helpless, and a third a cripple, and one of the women was stone-blind.

On the day the Porpoise made Aratica, they discovered a large double canoe, with two mat-sails, which proved to be from Anaa, and bound to Aratica; there were sixteen persons on board, men, women, and children, together with their mats, calabashes, and large supplies of cocoa-nuts, &c., with which they declined parting. They had left Anaa, a distance of one hundred and thirty miles to the southward, the morning before. The canoe was a dull sailer, the brig leaving her far behind; she, however, reached the entrance to the lagoon during the day, and was warped through the passage into it.

The next day the Porpoise sailed for Tahiti, where she arrived on the 21st of January. The appearance of things at Papieti seemed very much as they had been twelve months before; but some events had occurred during the year, which it will be as well to notice, as they will show how things are conducted, and give an insight into the conduct of royalty that was little dreamed of by us on our former visit.

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* See Captain Belcher's remarks on Bow Island—Voyage around the World in 1836 and 1842.

On the 7th of May, one of the unhappy domestic feuds of the royal family threw the whole of Papieti into a ferment. The queen, followed by all her attendants, with great lamentations, rushed into a foreigner's house, to escape from her royal consort, who was pursuing her, uttering dreadful menaces. The facts of the quarrel, as derived from authentic sources, are as follows. As Pomare was on her way to Papieti from her residence at Papaoa, she was met by Pomare-taui riding furiously. Owing to the turn of the road, he did not perceive the queen's party in time to stop, and ran over one of the maids, knocking her down, and bruising her. Pomare, attributing the accident to his being intoxicated, began to abuse him in opprobrious terms. Enraged at it, he dismounted, and began not only to abuse, but also to strike her. Not content with this, he caught her by the hair, threw her down, and attempted to strangle her, which he was only prevented from doing by the attendants, who held him until Pomare fled for her life. Disappointed in overtaking her, he hurried to her new palace at Papieti, and vented his anger by demolishing the windows, breaking open her boxes and trunks, and tearing her wardrobe and finery to pieces,—thus doing injury to the amount of some two thousand dollars.

On the perpetration of this outrage, the queen at first declared her intention of summoning the judges and suing for a divorce; but soon changed her mind, and forgave her husband on his promising future good behaviour.

Although this may appear extraordinary conduct on the part of the king-consort, yet when one learns that the queen has been in the habit of giving him a sound cudgelling, even on the highway, his conduct is not so surprising, particularly as it is said that she administered her punishments with such earnestness and force that he would not be likely soon to lose the remembrance of them.

These broils in the royal family may, I believe, be justly charged to the foreign residents whom I have spoken of before as being the authors of them, for they administer to his depraved appetite in order to derive pecuniary advantage from these disturbances.

On the 11th of May, a great meeting of the district schools took place at Papaoa. This had been in prospect for several weeks, and every one was anxious for the event. The procession to the chapel was the great scene of display: here the orator of the day was to officiate, after which a feast was to be given by the queen to the chiefs and children.

As there was some novelty in this celebration, which was the first of the kind attempted, I will give a short description of it, derived from an eye-witness. First came the boys of Papieti and Papaoa, to the number of about two hundred, dressed in blue cotton coats and trousers, the seams bound with narrow strips of red and white cloth, the facings of the coats of many colours, and not unfrequently the coats themselves of diverse colours on the alternate sides: the skirts were also of different colours; others were to be seen with white jackets, and skirts of plaid cloth; on their heads they wore home-made cocked-hats, manufactured from bullock's-hide, on which were pasted representations of men, birds, beasts, fishes, &c., cut out of coarse paper or bark, and affixed with gum.

Next followed the young men and boys of Matavai and Pappino, similarly equipped. One among these attracted particular attention for his cap was decorated with two tiers of small looking-glasses, surmounted by a crown of feathers, a large bunch of which was stuck into an old tin nutmeg-grater, in front, as a pompoon, while by way of decoration was seen suspended on the left breast, by a blue riband, the polished bottom of a brass candlestick. Many of the larger boys had on epaulettes and swords; others were armed with sticks, and had epaulettes of shavings dyed yellow. A number of the older boys carried flags of tapa, stained and decorated with fanciful devices.

Next came all the female children, very neatly dressed, and the queen, Pomare, with her attendant maids of honour, thirty in number, arrayed in white, with neat straw bonnets, profusely decorated with gay ribands and feathers: the larger proportion of them had short stockings on for the first time in their lives: each of them carried a silken scarf suspended to the end of a long reed, and the scarfs were of every variety of colour.

In the rear was Pomare-taui and the principal chiefs: the latter were dressed in military costume, and their clothes fitted so well that they might be termed well dressed.

Near the chapel, sentinels were posted to keep off the crowd: these had muskets, said to have been borrowed for the occasion, with which they saluted the queen as she advanced. At intervals in the procession were officers and the monitors of the schools, for the purpose of keeping order.

At the chapel, the services were conducted by Mr. Pritchard, who made an address of an hour's duration, which was listened to with great attention; after which the procession formed again, the queen and her attendants leading the way to the feast. This was spread in a large house at Toanoa Point, which had been erected for the occasion, surrounded with a palisade, and gaily decked with flags, &c.

Near the entrance her majesty halted, and the children passed in review before her, the monitors shouting at the top of their voices, "God save our Queen Pomare, may her life be long!" to which the children responded, "Amen." They then formed in line and received the queen, taking off their caps and bowing low as she passed. About thirty foreigners were there to pay their respects: these she invited to dine with her, fine mats being spread for their accommodation. On the centre of these mats were placed fresh leaves of the hibiscus, on which native food was served, consisting of baked pig, taro, bread-fruit, &c., cooked in a variety of ways, with fermented cocoa-nut pulp: for sauce there were small calabashes of salt water, and for drink the young cocoa-nut milk: each person was furnished with a plate, but knives and forks were not supplied. Mr. Pritchard said a short grace, when her majesty set the example to the rest, and they all began with good-will.

When the royal party had finished, the schools by districts succeeded; and after all had done, the procession was again formed, and marched several times round the enclosure, chaunting, and going through a variety of gesticulations and manœuvres, with surprising accuracy, and in excellent concert.

Several speeches were now made by Mr. Pritchard and the chiefs, highly commendatory of the conduct of all, and laudatory of those present, including the foreigners, who returned their acknowledgments to the queen for the civility. Thus ended this day's feast.

The scene that took place the next day will serve to show the hostile feelings of which I made mention in my account of this island, as existing between the high chiefs and the queen's party.

A meeting had been called for the purpose of receiving the reports of the auxiliary societies, and the returns of contributions: the people were found assembled; her majesty was robed in a crimson silk, and her maids in close-fitting jackets of the same colour, with white skirts. Notwithstanding the religious tendency of the meeting, want of harmony interrupted its proceedings, and extended to such lengths at one time as to have had the appearance of terminating very seriously.

This misunderstanding arose from the circumstance of the Matavai people having dined with the queen the day before, instead of keeping an engagement they had made with the Anaan chiefs at another place. The latter were indignant that they should have been thus treated with neglect without apology.

The Matavaians, instead of coming into the chapel at the door appointed for them, chose that which had been appropriated to the Anaans, at the opposite end. The latter, imagining that this was done out of bravado, pushed back the foremost of the Matavaians and closed the door. The Matavaians, being under the impression that it was intended they should be excluded altogether, burst it open and rushed in, headed by Hitoti and Paofai. A scene of uproar and confusion immediately ensued. There were at this time more than five hundred persons in the chapel, and the men were striking at and wrestling with each other, tumbling over the benches in all directions, while those who did not fight were shouting and encouraging the combatants.

Several of the chiefs, with Messrs. Pritchard, Darling, Wilson, and others, among whom was old Taati, laboured in vain to restore peace and quietness: the affray continued; swords were drawn, muskets handled, and all appeared preparing for a bloody fight. The ladies of the mission present sought safety beyond the building; while all the native women made a general flight to the Broom Road.

Pomare and the king-consort behaved with great spirit: the former seized upon Hitoti; the latter, being of great strength and power, used his fist upon several of the ringleaders, knocking them down and putting the rest to flight.

The affray lasted half an hour, and terminated in the expulsion of the Anaans with several bruised heads. Upon quiet being restored, the ladies returned, when the Rev. Mr. Wilson, of Matavai, preached a sermon on "brotherly love," reproving them for their want of it, and for their disgraceful conduct. He expressed much sorrow that his congregation, of which he had been in charge forty years, should have behaved so ill, unmindful of the numerous lessons he had given them.

After the sermon, the contributions for the year were counted, and found to be about four hundred dollars: little more than half those of the preceding year. After this, a discussion took place as to the best mode of preventing the recurrence of a like scene, and also the course to be pursued in punishing the offenders.

In consequence of the disturbance, the feast which was to have taken place was dispensed with, and most of them retired to their homes; but it was afterwards understood, that a good many remained and kept up an uproarious night.

The friends of good order agreed in opinion that this day's disturbance would be rather beneficial than otherwise, by showing who were most desirous of preserving harmony; and perhaps would lead to more caution in future. This, it seems to me, is rather an absurd argument as respects a community that have been acting under a constitution and laws, with their pious teachers, for the last fifteen or twenty years.

These disturbances manifestly arise from want of respect, on the part of the rival chiefs, for their queen and her husband: the latter are disposed to look upon the royal conduct as disgraceful, and as setting an example highly derogatory to their own standing and that of the chiefs and nation. They believe these difficulties to be owing to the intervention of foreigners, who take every opportunity to set the laws at defiance; and since the visit of the Venus, Captain Du Petit Thouars, foreigners have been still more active in taking advantage of the difficulties that these natives get into.

At the time the Porpoise visited Papieti, the queen was absent on a visit to one of the other islands of the group, accompanied by a large retinue of attendants, with nearly three hundred soldiers, dressed in queer and uncouth uniforms, somewhat similar to what has already been described.

Since our first visit, it was remarked by the officers, that a more efficient police had been established at Papieti: no sailors or riotous persons were allowed to be abroad after eight o'clock, without a written pass from the consul; and in case of being found without such a document, the offender was put in the stocks and kept there until a fine of two dollars was paid. This regulation was found necessary to preserve the peace of the village; and was said to be rigidly enforced.

The American property that has visited the ports of Tahiti during the last year, has, according to information derived from our consul, amounted to upwards of five millions of dollars.

Lieutenant-Commandant Ringgold having completed the duties, including the magnetic and chronometric observations he was charged with in visiting Tahiti, obtained water, refreshed the crew, and took his departure; but in consequence of the calms that prevailed, he found much difficulty in leaving the port.

Immediately on getting outside, they were influenced by a rapid current, setting to the southward. For three or four days they had very light winds or calms, and made but little progress on their route: the weather was exceedingly warm. On the 3d of February, they had a strong breeze from the northward and northwest; after this had continued for two days, it hauled to the northeast. Several of the crew were taken down with dysentery and fever.

The trade-wind was found at this season of the year in latitude 13° S.; and from what information I was able to gather, I am disposed to believe that it cannot be calculated upon during the months of December, January, and February, south of latitude 14° S.

On the 6th of February, they made Flint's Island, situated in longitude 151° 48′ W., and latitude 11° 25′ 43″ S. It is of small size, being only one mile and a half in length, from north-northwest to south-southeast, and thickly wooded: high breakers extended off its point for some distance, and the surf was so high that it was deemed impossible to land with a boat, which is to be regretted, as these isolated islands are always extremely interesting. No inhabitants were seen. The current was found to be setting to the westward.

The next island searched for was one reported to have been seen by Captain Cash. It was discovered on the 8th, and proved to be a low sandy islet with a lagoon. It is well wooded, half a mile in diameter, of oval shape, with heavy breakers surrounding it. Landing was reported to be impossible, and no attempt was made. After determining its position to be in latitude 10° 05′ S., and longitude 152° 22′ 30″ W., they bore away for the position of Penrhyn Island. Lieutenant-Commandant Ringgold believed the island last spoken of to be Staver's Island, and by this name it is designated on our charts. At night the water was very phosphorescent: its temperature 78°.

The Porpoise next passed over the supposed site of Teinhoven Island, without seeing any signs of land, and thence northwest across two positions assigned to Penrhyn's, examining particularly that given by Captain Cash, in latitude 9° 58′ S., and longitude 158° 14′ W. No island, however, was seen. Proceeding further to the northwest, they, on the 15th, discovered land, which proved to be Penrhyn Island, about thirty miles west of its place on Arrowsmith's Chart. It was of the usual coral formation, low, and densely covered with trees, among which the cocoa-nut was the most conspicuous.

The vessel stood off and on all night, and on the 16th, at sunrise, canoes were discovered approaching the brig, in great numbers, many of them large. At seven o'clock, two came alongside, and others soon followed them. As the numbers of the visiters increased, they became more bold, and clambered up the sides, uttering loud and savage yells. They were the wildest and most savage-looking beings that had been met with, vociferating in a frightful manner, and accompanying their exclamations with the most violent contortions and gesticulations: they seemed frantic with excitement. These natives were quite naked, except a few who had on a small maro of cocoa-nut leaves.

The canoes contained from seven to sixteen men each, all equally wild. The noise they made was almost deafening; every individual talking earnestly in a language not comprehended by our party. The tone of their voices was altogether discordant, at one moment high and shrill, and at the next sinking to a deep gruff base. In their harangues they slapped their thighs with great violence, and some wrung their hands and cried, protruding their eyes, and making frightful grimaces, reminding one strongly of maniacs in their utmost frenzy. They were not capable of fixing their attention for a moment on any one object, but with fitful rapidity they changed their regards from one thing to another.

Although they at first seemed unarmed, yet, upon a close inspection it was seen that they had weapons concealed in their canoes. A few of them succeeded in getting on board, and several articles were pilfered from the poop-deck, among them a pea-jacket, which was quickly and adroitly secreted in one of the canoes. A huge savage, with his eyes apparently starting out of his head, seized the man-rope, pulled the stanchion out of its place, and was in the act of passing it over the side when it was rescued from him. The islanders now became troublesome, and the order was given to clear the decks, which was quickly done by the crew with their cutlasses, but none of their visiters were injured. The moment they got into their canoes, large pieces of coral and shells were hurled on board with great force: two guns were fired over their heads, but they took no notice of them, and stood up in their canoes, brandishing their spears and yelling defiance. As their numbers were constantly increasing, Lieutenant-Commandant Ringgold thought it prudent to keep the brig under way, beat to quarters, and made preparations to meet attack, if it should be intended.

Three or four canoes were kept towing astern, and after many ineffectual and long-continued efforts, a trade was begun for their arms, necklaces, &c., which they parted with for iron, knives, cloth, and other articles. The first they designated by the name of "toke," and the meaning of several other of their words was ascertained. These islanders did not know the use of tobacco, but would receive any and every thing offered: on receiving the articles they immediately thrust on board the article sold, and appeared fair in dealing, though they proved themselves to be expert thieves.

Like other natives of Polynesia, they seemed a half amphibious race, diving for any thing dropped overboard with great ease and unconcern. They are of a light olive colour, though darker than either the Samoans or Tahitians, with fine black hair. The old men had beards and mustaches. They partook of the Samoan cast of feature, and are an equally athletic, erect, and finely-formed race.

Neither tattooing nor circumcision appears to be practised, but many of the men were observed to have lost their front teeth. The custom, however, of scarifying the body and limbs appears to be general. Dress they had none, except a small maro. A few words were found to resemble the other Polynesian dialects, but neither the Hawaiians nor Tahitians could communicate with them.

Only two or three women were seen: they were delicate in appearance, of light complexion, and feminine cast of features, with long glossy hair, and beautiful white teeth. Dr. Holmes remarks that their mammæ were immensely large. The women from their gestures proved themselves to possess habits fully as unchaste and profligate as elsewhere in Polynesia.

From what was seen of these natives, they appeared a ferocious and quarrelsome set, paying little attention or regard to the old men, whom they treated with great roughness. On the occasion of a canoe being overturned by coming in contact with a larger one, and drifting astern, an old man seized hold of the larger canoe, to save himself from following his boat; but instead of any assistance being offered him, his fingers were struck until he relinquished his hold and was obliged to seek his own canoe.

Few evidences of rank were observed among them, and but one was seen who had the appearance of being a chief. This was an old man, who was seated in the centre of a canoe, paddled by fifteen natives, who were striving hard to overtake the brig. He wore a sort of mantle of plaited leaves over his shoulders, with a fillet of leaves on his head, and his whole bearing and conduct betokened authority. A bunch of what were apparently cock's feathers was also noticed.

Spears made of cocoa-nut wood, from six to eight feet long, were the only weapons seen among them, with the exception of pieces of coral.

For ornaments they had strands of human hair braided and decorated with finger-nails half an inch long, and two to each strand. Only two or three of them wore short mantles.

Their canoes were of a dark-coloured wood, with a light out-rigger, and without sails: they were ingeniously constructed of pieces sewed together with sennit; they leaked badly, however, and it was necessary to keep one man constantly baling. They were the largest that had yet been seen constructed on a low island. These people appear to have few tools, and the only articles of European manufacture that were seen was a plane-iron fastened to a stick, in the form of an adze, with a few blue glass beads.

The island was by estimate fifty feet high, and was found to be nine miles long, north-northeast and south-southwest, and about five miles wide, with an extensive lagoon, having in it many coral patches: there is a boat-entrance into it. On the northwest side there appears to be a continuous village, with cocoa-nut groves throughout its whole extent, and the island is evidently very thickly peopled: the ferocity of the savages precluded the possibility of attempting a landing.

The island is believed to afford some tortoise-shell and pearls; but the ferocious and savage disposition of the natives would require traders to be strongly armed.

Lieutenant-Commandant Ringgold induced one of the natives to come on board for a hatchet, and directed him to draw the shape of the island with a piece of chalk; but he proved so wild and was so much amazed, that he did nothing but leap about, constantly uttering exclamations.

The communication with this island was too brief and imperfect to obtain any satisfactory knowledge of its manners and customs, and the disposition of the natives was averse to such intercourse: they appeared to have been seldom visited by vessels. It is believed that they have the domestic fowl among them, from its feathers having been seen as ornaments. The yam was also observed, but not the taro.

The brig supplied them with sweet-potatoes, pumpkins, and oranges, and made signs that they were to plant them, which they well understood, and engaged to do.

In exchange for the various articles we received, they were given knives, shawls, iron, hatchets, and cotton cloth.

It was remarked that they possessed the most astonishing talent for haranguing: some individuals continued for three quarters of an hour to hold forth in a tone which it seemed impossible for any individual to sustain for more than a few minutes, hardly stopping to take breath, and keeping up at the same time constant and violent gesticulations. These attracted no attention from their fellows, as each seemed bent upon doing his part, and tried to be equally uproarious.

It was now deemed impossible to extend the cruise to the Isles of Danger, agreeably to the instructions, on account of want of time and scarcity of provisions. This I regret, as I was very desirous that these islands, pointed out by Admiral Krusenstern, should be examined. This cruise would also have embraced the western positions of Flint's and other islands, as laid down on Arrowsmith's Chart. Compelled to forego this part of his intended task, he stood to the northward, for the purpose of fulfilling that portion of his instructions that lay in his route to the Hawaiian Group.

Between latitudes 3° S. and 5° N., the easterly current was found to prevail, as before observed by the squadron, between 5° and 10°

N. They then experienced light northeast winds, with strong equatorial currents, which with the strength of the northeast trades carried them to leeward, and prevented their making the Hawaiian Islands. This rendered necessary the curtailment of the rations to less than one-half. The officers, with proper spirit, shared the privations of the men, and tendered their stores to the commander for the common stock.

On their way north, New York Island was seen; and on the evening of the 24th of March, they anchored off Honolulu, after an absence of four months and nine days, only eight of which were passed in port.

The results of this cruise of the Porpoise were satisfactory to me, although it had been found impossible to carry out all the duties embraced in her instructions. The performance of those that were accomplished was attended with much fatigue from the adverse state of the weather, an obstacle I was somewhat apprehensive of, but not to the extent that they experienced. Had I been at liberty, or had time allowed, I should have gladly chosen another season for it. With suitable weather, there would have been ample time to accomplish the whole.

While on this cruise, they were more troubled with sickness on board the brig than at any other time during our absence: several cases of dysentery occurred, one of which, as before mentioned, proved fatal.

From the report of Lieutenant-Commandant Ringgold, relative to the Porpoise, and on examination of her bottom, the copper was found so far gone as to make it necessary to re-copper her. This cause of detention was unlooked for, and I had been in hopes to give her crew a short relaxation; but there was no opportunity for it. The necessity of a speedy departure admitted of no delay. She was accordingly hauled into the wharf, and they commenced heaving her down. The crew of the Vincennes assisted in these duties. Some few difficulties occurred, but by the uninterrupted and constant attention of all, the work was soon completed, and the brig again prepared for sea.

During this time the effect that the introduction of French wines and brandies had had upon the habits as well as morals of the lower orders, became very evident; and to avert this evil influence from the crews of both vessels became one of the most troublesome duties the officers had to perform. So great is this annoyance, that I think it sufficient to prevent the making of any repairs but what can be done at anchor in the harbour, and will ere long, I fear, prevent this port from being the resort of the whaling fleet, or even of casual vessels.

For this reason I would recommend Lahaina and Hilo Bay, to those vessels which only require refreshment, as being the preferable stopping-places.

During this time, observations were had for the rating of our chronometers, and many other duties were performed, besides finally settling up the accounts of the squadron, which occupied us until the 3d of April, when the Vincennes left the harbour and anchored in the outer roads, leaving the Porpoise to follow as soon after as possible.

Although I have mentioned various productions of the soil of the Hawaiian Islands, in describing the several districts that were visited, yet it may be as well to record in this place, those we found indigenous to the islands. They consist of the following important plants.

Taro (Caladium esculentum), of which they have thirteen varieties: ipulemo akea is that most cultivated. It is planted at all seasons of the year, usually in patches which are also used as fish-ponds. All parts of the taro are used: the leaves form, when cooked, what is termed "luau," and from this the natives give the name of luau to every thing cooked with them: as luau pig, or luau dog. The taro of the upland is the same kind as that grown in the water.

The yam (Dioscorea), uhi of the natives, is not so plentiful nor so good, at this group, as we found it on the islands in the South Pacific.

Arrow-root (Tacca): this already begins to form an article of commerce, and might be much improved, both by cultivation and in its preparation, which ought to be taught to the natives. It must eventually form an important object to those who trade with this group.

Sweet-potato: this vegetable some think may have been introduced by the Spaniards. There are thirty-three varieties of it, nineteen of which are of a red colour, and thirteen white.

Sisymbrium grows about Honolulu, and is used by the residents as a salad.

Fern-root (Blechnum), the core of which is eaten by the natives.

Cocoa-nuts are plentiful, but little used.

Papaw apple (Carica papaya) is abundant.

Rose apple (Eugenia) is plentiful, and a very fine fruit.

Bananas, plantains, abundant.

Candle-nut (Aleurites triloba), tutui of the natives. The oil of this nut is becoming an article of commerce, and is said to answer for painting.

Bread-fruit (Artocarpus incisa), of which there is only one species.

Pandanus, "lauhala" is one of the most useful trees they have: the leaves are used for making baskets, mats, and for thatching their houses. The women make necklaces from the nuts.

Hibiscus tiliaceus, " haw," also serves many purposes, among which is the manufacture of ropes: its wood being light and tough, is used for out-riggers, and for sticks to carry burdens on.

Acacia, which is used in a variety of ways.

The black mustard has become naturalized.

Turmeric (Curcuma) is also found, I understood, in considerable quantities on Maui, of which some has been procured for sale, and was pronounced to be of excellent quality.

Indigo is found growing wild, particularly in Hawaii. Almost all kinds of foreign fruits and vegetables have been introduced, and with but few exceptions, succeed well: this is also the case with many ornamental trees, shrubs, and plants.

It was observed by our botanists, that the character of the flora of the Hawaiian Islands is similar, in many respects, to both the Indian and Polynesian, yet in some particulars it bears a strong contrast to the southern Polynesian islands. This difference consists in the absence of all species of Ficus: the small varieties of trees are also absent, although there are some extensive forests. Orchideous plants are extremely rare, and the epiphytic species wanting altogether, while the Compositæ are much more abundant than in the more southern islands.

In the ferns, however, the difference is most obvious, and consists in the predominance here of different genera and tribes.

The absence of American plants was also observed here: they did not appear to be much more numerous than at the southern islands, notwithstanding what has been generally reported.

The most remarkable feature of the flora is the woody Lobeliaceæ; these are in great variety, and constitute several distinct genera.

It is believed there are more than fifty genera of different families peculiar to these islands; and with regard to species, it is thought all that are unequivocally indigenous, will be found strictly confined to this portion of the globe.

The botanical regions may be divided into that of the sea-coast, the wooded district below the altitude of six thousand feet, and a third division at a still higher level. Alpine plants do not occur here. For further remarks on the interesting botany of this group, I must refer to the Botanical Report of the cruise.

Having spoken so much of the climate of the different districts, it will only be necessary here to take a general view of that of the whole Hawaiian Group. The monthly mean temperature ranges between 70° and 78°. This remark applies to the coast almost exclusively; for, as would naturally be expected, on higher elevations the thermometer stands lower. The daily variation is seldom more than ten or twelve degrees. The barometer does not usually vary much from 30·00 in. It will have been perceived that there is a great difference in the degree of moisture which exists within a few miles; indeed, I might say, that within a few rods a different climate often prevails: in this respect, there are few places in the islands so remarkable as the immediate vicinity of the town of Honolulu.

While parts of the town are rarely visited by showers, other portions of it are noted for the frequency of their occurrence. In passing from the town up the valley of Nuuanu, rain becomes more frequent, until at last the superabundance of moisture is quite annoying.

There is a great variety of opinions relative to the healthfulness of the climate, and it certainly has opposite effects upon the feelings of different persons. Upon the whole, the leeward side of the island is to be preferred as a place of residence, although the quantity of dust renders it at times very uncomfortable, for it seldom happens that there is sufficient rain to lay it; while on the weather side the frequency of showers is much complained of. In some parts, it is said, a day never passes without rain.

With respect to the force of the trade-wind, which generally prevails for nine months of the year, it is at times, extremely unpleasant, and blows over the high land of the islands with great fury, sometimes becoming dangerous to vessels in the neighbourhood. This remark applies particularly to the small islands: the larger ones have alternate land and sea breezes, which moderate their temperature, and usually the winds are not so violent. The most delightful part of the twenty-four hours is the night, and I have never experienced such pleasant ones in any other part of the globe. Though warm, there is an elasticity in the air that never exhausts. In the winter season, from December to March, the trade-winds for the most part cease; calms take their place, and occasionally a southwest gale is experienced for two or three days. This is generally preceded by a heavy swell setting from that quarter, and a great increase in the surf. This wind is accompanied by heavy rain: we did not experience it ourselves, except while on the mountain; but the residents informed me that it was extremely uncomfortable, and instead of the elasticity usually felt in the northeast wind, they experienced a heavy dull feeling, relaxing the whole system. At certain seasons of the year there are heavy dews; exposure to them, however, is not deemed injurious.

The diseases of the climate are few, and generally of a mild type, and from the report of physicians long resident, the islands may be considered healthy for foreigners. The diseases that are most prevalent are fevers, diarrhœas, inflammations, dropsy, catarrhs, ophthalmia, asthma, dysentery, rheumatism, scrofula, and venereal.

These diseases, notwithstanding the absence of apparent causes, are frequent among the natives; but many of them are brought on by living in their grass-houses, which are by no means impervious to the weather, and are consequently often wet. Another frequent cause is the partial decomposition of the grasses with which they are thatched on the roof and sides. In passing into them I invariably experienced a smell of mustiness, and a mouldy appearance is frequently seen about their mats and tapas. From the openness of the houses they of course are subject to all the atmospheric changes, which must naturally induce disease by the constant checking of perspiration, a cause that is rendered still more active by their sleeping on damp ground.

Ophthalmia is much complained of, particularly about Honolulu, Lahaina, and some places on Kauai: this might be ascribed to the quantity of dust that is daily put in circulation by the trade-winds, were it not that the disease is equally prevalent where this cause does not exist. I have heard it suggested that the prevalence of the strong trade-winds, with the salt spray driven by them, may be another cause.

Cutaneous diseases are usually caused by the want of cleanliness; for, although the natives are in the habit of bathing frequently, yet, from my observations of their customs and dwellings, I cannot but deem them a filthy people: the tapa and cotton clothing of both sexes is worn until it is fairly in rags, and has become so dirty as to be disgusting: they seldom if ever think of a change of raiment. Their houses are shared with their domestic fowls, dogs, and pigs, and are rarely free from the dirt that so many denizens must produce. One sees that most filthy disease, the itch, not unfrequently affecting the larger portion of the inmates of a house, and I could not help wondering that so little improvement had manifested itself among them, in their habitations and mode of living.

My friend, Dr. Judd, assured me, that hepatic diseases were extremely rare, and that this ocean seems to be peculiarly exempt from all biliary diseases. The ground of this belief, is the almost total absence of them on board our whaling fleet. The physicians of Honolulu and Lahaina, where these ships often stop in large numbers, assured me that they seldom heard of a case. These islands are indeed little subject to these diseases, or the typhus, bilious, and yellow fevers, which prevail so extensively on the continents. They are also free from the measles, small-pox, &c.

The diseases of children are frequent, but may chiefly be accounted for by the want of cleanliness and attention from their parents: hence the great mortality among them, which has been before spoken of. They are also allowed to eat the most indigestible food, and from this and other causes are frequently seen covered with excoriations and ulcers, that are truly horrible.

A somewhat similar disease to that which we have observed in the other Polynesian islands, exists here under the name of the poupou; but it is by no means so violent, nor did we see any cases of so disgusting a character as those heretofore described: it is very much confined to the young.

In speaking of the native diseases, I cannot but think that many of them are brought about by the habit of eating their food so much fermented, until indeed at times it has become disagreeable to the smell: in this state, however, it is always preferred. I do not remember having observed this to be the case in any other of the Polynesian islands, as respects their vegetable diet.

Epidemics are not frequent, although a dreadful one prevailed in 1803 and 1804, which is said to have destroyed a large number of the inhabitants, and visited all the islands.

The whooping-cough was introduced in some way, and spread itself throughout the group.

The influenza prevails both during the winter and spring, but is only fatal to the old and weak.

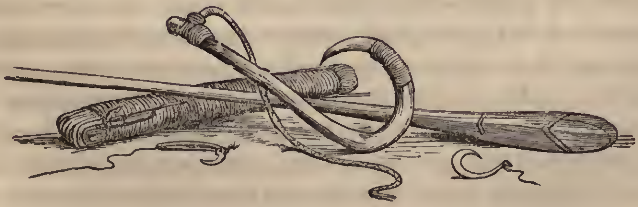
The native doctors, if such they may be called, frequently aggravate disease by their nostrums. Dr. Judd related to me many instances of their quackery, which not unfrequently ended in death. The native remedies, however, are of some value, if they had knowledge enough properly to apply them; but without this intelligence, they are at all times more or less dangerous: they consist of the candle-nut (Aleurites triloba), the bitter calabash (Cucurbita lagenaria), the seeds of the castor-oil nut, a species of Ipomœa, and many other powerful herbs, of which they make strong decoctions: these are often administered by enema, and their operation frequently brings on great agonies and death. To these are added incantations, which of themselves are quite enough to kill. But, worst of all, it often happens that those who are well are induced to take preventive remedies for future sickness, which are said in some cases to be more severe than the constitution of the patient can bear.

Of surgery the Hawaiians know nothing whatever, nor have they much occasion for its practice, for few of them receive injuries sufficient to call for the application of that branch of the healing art.

The physicians attached to the mission, of which there are several, do incalculable good in alleviating distresses and superintending their wants: all this is done gratuitously, and I think seems little esteemed, however strange it may seem, by the natives. I very much doubt the policy of giving their services and medicines free of charge, for the natives are abundantly able to pay, and I make no doubt would do so if they felt they could thus command the services of the physician whenever needed.

This is a part of the organization of the American Mission that is highly commendable: in no other mission is it found. It not only alleviates the cares of the missionaries themselves, in their families, but adds greatly to their success, and power of doing good. One of the great difficulties in practising medicine among the natives, is their heedlessness and inability to restrain their appetites, both as respects the patients themselves, and their families and friends: they often disregard all injunctions as to diet, nor do they exercise any control whatever over the sick. The natives, however, are adepts in alleviating pains, as I myself can testify: the practice of the loomi-loomi seldom fails in assuaging headache and pains in the limbs; but this is not practised by those who are the disciples of Esculapius.

Although the Hawaiian Islands have been much vaunted as a resort for invalids, I am not satisfied that it would be beneficial to visit them, unless the person afflicted would, on choosing the most suitable abode for his recovery, confine himself to the circumscribed limits. Few comforts could be looked for, unless the patient were to become an inmate of some one of the missionaries' or respectable residents' houses, where they will be sure to enjoy all the kind attentions and the care of another home.



PENRHYN ISLAND FISH-HOOKS, ETC.

# CHAPTER IX.

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# CHAPTER IX.

## NISQUALLY AND COLUMBIA RIVER.

### 1841.

On the 5th April, 1841, we had completed our repairs, and made arrangements for the transportation of our stores to the Columbia river by the brig Wave. The Porpoise was ordered to leave the harbour in the afternoon, and anchor near the Vincennes in the outer roads. Towards sunset we took leave of our kind and numerous friends, and the same night at $11^h$ $30^m$, the signal was made for getting under way. We soon afterwards made sail, and steered to the westward, in order to pass between the islands of Oahu and Kauai.

Light winds prevailed for several days, during which we made but little progress. The second day after our departure, Lieutenant-Commandant Ringgold made signal that the rudder of the Porpoise was out of order, and would not work. We therefore hove-to, and sent the carpenters of the Vincennes on board the Porpoise, who returned in a short time and reported that it was all right. The winds for these first few days were northerly, and therefore not only light, but contrary.

During this time the crew of the Porpoise was much afflicted with sickness. This, according to the report of Assistant-Surgeon Holmes, was caused by the constant labour which the men had undergone, and to their dissipation while in port. The cases were of a very serious character: four of them took the typhoid fever, and what was singular, seven of the persons affected were petty officers. The worst case was that of the carpenter, who had probably undergone more fatigue than any other person.

On the 9th, at the request of Dr. Holmes, Dr. Fox was sent on board the Porpoise to hold a consultation.

In all these cases there was much fever, attended with constipation and a tendency to inflammation of the bowels. Until the 15th the state of the sick continued critical, but, through the perseverance, attention, and skill of Dr. Holmes, the disease was finally conquered. As the sick became convalescent, I was desirous of having them removed to the Vincennes, but the medical gentlemen were of opinion that it was not expedient to transfer them to that vessel, lest the disease might be of an infectious character.

During all this time the crew of the Vincennes enjoyed remarkably good health.

On the 12th, in latitude 25° N., longitude 160° W., we found the current setting north-northeast. By the 16th, the temperature fell to 64°, which we felt as exceedingly cold.

In proceeding to the north, I was desirous to pass over a portion of the sea that had not been examined by preceding navigators, particularly as it is confidently believed by many persons in the Hawaiian Islands, that land existed in the neighbourhood where we now were. I was, therefore, anxious to make search for it in such places as had not been explored by others, and I had procured a chart, showing the tracks of Portlock and others. This search was made as closely as time and opportunity permitted, but ineffectually. I am, however, far from satisfied that land may not exist in this quarter, for we in fact did little in the way of exploration, in consequence of the foggy and hazy weather which limited our view.

The part of the Northern Pacific which lies between the latitudes of 33° and 43° N., and longitudes of 140° and 150° W., is particularly subject to fogs and thick weather, and there are few places where indications of land are stronger: thus, numerous birds were seen, of species found only in the vicinity of land. I therefore feel satisfied that although we failed from want of sufficient time for a thorough search, land will be found at some future day within the space just defined.

On the 19th of April we had a sudden change of the wind from the southward to the northwest, accompanied with a heavy head sea. The temperature fell ten degrees within half an hour: the barometer stood at 30·20 in. On the 20th, a hawk was taken, while regaling himself upon a small land-bird. Many flocks of small birds were seen, as well as frigate-birds and quantities of villula, which gave the ocean the appearance of being covered with cinders. They were quite as numerous as described by Vancouver, and continued to be seen in large quantities for the distance of six hundred miles.

On the 23d April, I changed my course again, to avoid running over that portion of sea which had been already traversed by others, and on that day we saw several flocks of small birds, like snipe in appearance. The wind favoured us, and carried us forward at a rapid rate.

In latitude 42° N., longitude 149° W., we lost sight of all the villula, and the thermometer fell to 51°. At night we had a heavy dew, and the temperature was as low as 46°. We now experienced a strong current setting to the southward and eastward. Petrels and albatrosses were seen in abundance.

On the 28th of April, at 6 A. M., we made Cape Disappointment, which we soon came up with. A heavy sea, caused by the strong winds that had prevailed for several days, was running. I, notwithstanding, stood for the bar of the Columbia river, after making every preparation to cross it; but on approaching nearer, I found breakers extending from Cape Disappointment to Point Adams, in one unbroken line.

I am at a loss to conceive how any doubt should ever have existed, that here was the mouth of the mighty river, whose existence was reported so long before the actual place of its discharge was known, or how the inquiring mind and talent of observation of Vancouver could have allowed him to hesitate, when he must have seen the evidence of a powerful flood of fresh water contending with the tides of the ocean, in a bar turbulent with breakers, in turbid waters extending several miles beyond the line of the shore, and in the marked line of separation between the sea and river water. Such appearances must be constant, and if seen, the inferences could hardly be questionable, that the great river of the west poured itself into the ocean at this point.

Mere description can give little idea of the terrors of the bar of the Columbia: all who have seen it have spoken of the wildness of the scene, and the incessant roar of the waters, representing it as one of the most fearful sights that can possibly meet the eye of the sailor. The difficulty of its channel, the distance of the leading sailing marks, their uncertainty to one unacquainted with them, the want of knowledge of the strength and direction of the currents, with the necessity of approaching close to unseen dangers, the transition from clear to turbid water, all cause doubt and mistrust.

Under such feelings I must confess that I felt myself labouring; and, although I had on board a person from the Sandwich Islands who professed to be a Columbia river pilot, I found him at a loss to designate the true passage, and unable to tell whether we were in a right way or not. I therefore, at once, determined to haul off with the tide, which was running ebb with great rapidity, and which soon carried us back into the blue water of the ocean, to wait there until the sea on the bar had in some measure subsided.

The land near the mouth of the river is well marked, and cannot readily be mistaken, and on the summit of the two capes are several lofty spruce and pine trees, which the officers of the Hudson Bay Company have caused to be trimmed of branches nearly to their tops. These serve as conspicuous marks, but our pilot was ignorant of their relation to the channel.

Our passage from Oahu had been no more than twenty-two days, which is unusually short. The first part of it, until we passed in latitude 28° N., beyond the influence of the trades and variables, had been, as already stated, attended with light and contrary winds.

The temperature of the air had fallen from 78° to 43°, and that of the sea to 46°.

During the night we had boisterous weather, and the ship was very uncomfortable, in consequence of her shipping water in considerable quantities through the hawse-holes, which flooded her gun-deck. As, in conformity with my determination to wait until the surf on the bar should have subsided, the anchors would not be needed for some days, I ordered the chain cables to be unbent, which would permit the hawse-holes to be closed.

During the night, I took into consideration the loss of time that must arise from awaiting an opportunity to cross the bar, and after due reflection came to the conclusion that it would be better to proceed at once to the Straits of Juan de Fuca, and there begin my work on this coast. At daylight, therefore, (bearings of the cape had been taken the night previously and our position carefully calculated, and a course steered to run along the coast,) I spoke the Porpoise, and immediately bore away to the northward. Signal was then made to her to follow. Both vessels then proceeded at the rate of eight or ten miles an hour.

The weather was very thick, and the wind south-southwest. At ten o'clock the Porpoise was close under our lee-quarter. I was myself below, when I was informed by the officer of the deck that we had entered disturbed water. A number of birds were around the vessels, and a cast of the lead gave fifteen fathoms. By the time I reached the deck, land was seen through the haze, close aboard.

The ship was at once brought by the wind and all the studding-sails taken in.

The same discovery was made on board the Porpoise, and she was in the act of communicating it by signal. Neither of the vessels now had much water under their keels, and both were in imminent danger. We owed our safety to the good qualities of the vessels, which were on this occasion very evident, and to the conduct of the officers and crew, whose promptness and attention to the execution of the orders deserve my highest praise, and reflect great credit on their discipline.

Our situation caused me much anxiety for a short time; and this was one of the many hair-breadth escapes from wreck, incident to this cruise. The difficulty of our position was enhanced by the heavy sea we had to encounter, into which the vessels plunged so heavily as to endanger our spars. The same cause had prevented us from bending the chain cables, so that we had no means of anchoring until after we had passed the most dangerous points.

We had several casts of the lead in five, six, seven, eight, and nine fathoms.

In examining into the cause of our being found so unexpectedly in this position, I am led to believe that there is a current that sets upon the coast: and in this I was confirmed by trials made afterwards.

Soon after we were out of danger, it cleared up sufficiently to give us a view of the land, which proved to be Point Grenville of Vancouver, and Destruction Isle. The latter is easily known by some remarkable perforations through a rock near it.

Near Point Grenville, several accidents have happened, both to English and Russian vessels; and a boat's crew belonging to one of the latter, was inhumanly massacred by the Indians.

It was also near this spot, that the very remarkable occurrence of the wreck of a Japanese junk happened in the year 1833. The officers of the Hudson Bay Company became aware of this disaster in a singular manner. They received a drawing on a piece of China-paper, in which were depicted three shipwrecked persons, with the junk on the rocks, and the Indians engaged in plundering. This was sufficient to induce them to make inquiries; and Captain M'Niel was despatched to Cape Flattery to obtain further information, and afford relief, should it be needed.

He had the satisfaction to find the three Japanese, whom he rescued from slavery; and the Hudson Bay Company with characteristic liberality, sent them to England. Thence they took passage to China, where I understand they still remain, in consequence of their being unable to obtain a passage to Japan

As a memorial of this extraordinary incident, porcelain of Japanese manufacture, which was purchased from the Indians who plundered the junk, was seen in possession of Mr. Burnie, the agent of the Hudson Bay Company, at Astoria.

On the 29th and part of the 30th, we had light airs and calms, so that we made little or no progress. In the afternoon of the 30th, the breeze freshened and carried us briskly to our destination. While thus proceeding, a large canoe, containing about twenty Indians, endeavoured to board us; but I was too anxious to reach an anchorage to regard their desires.

I was in hopes that the wind would continue fair, and enable us to have reached Neah Harbour ere night; but as we approached Cape Flattery and opened the Straits of Fuca, it became contrary. We were therefore compelled to pass the night, which proved dark and rainy, under way. We had but little knowledge of the dangers that might surround us; but our frequent tacks throughout the night showed us that but few existed at the mouth of the straits.

The coast of Oregon, to the south of Cape Flattery, is rocky, much broken, and affords no harbours, except for very small vessels. It may therefore be considered as extremely dangerous, and particularly on account of its outlying rocks. The soundings on this coast, however, I afterwards discovered, may serve as a sure indication by which danger may be avoided, and safety may be insured by not approaching the coast into soundings of less than seventy fathoms.

On the morning of the 1st of May, we found ourselves well into the straits; and as I proposed to defer the survey of this part of them until my return, we hastened to reach Port Discovery, where we anchored at half-past 6 P. M. on the 2d of May; just forty-nine years after Vancouver, pursuing the track of De Fuca, had visited the same harbour.

The Straits of Juan de Fuca may be safely navigated. The wind will for the greater part of the year be found to blow directly through them, and generally outwards: this wind is at times very violent. The shores of the strait are bold, and anchorage is to be found in but few places. We could not obtain bottom in some places with sixty fathoms of line, even within a boat's length of the shore.

The south shore is composed of perpendicular sandy cliffs, that run back into high and rugged peaks, and is covered with a forest of various species of pines, that rises almost to the highest points of the range of mountains. The highest points themselves are covered with snow; and among them Mount Olympus was conspicuous, rising to an altitude of eight thousand one hundred and thirty-eight feet.

The north shore is rocky, and composed, as far as we could examine it of conglomerate, and in some few places of a reddish granite.

In the morning we were boarded by a large canoe, with Indians who spoke a few words of English; and we had occasion to notice the wide difference between them and the Polynesians, both in language and appearance. No contrast can be more striking than this. They seemed to have scarcely any idea of decency, and to be little less elevated in their moral qualities than the Fuegians.

The principal man of the party was dressed in a coarse coat of red cloth, with the Hudson Bay Company's buttons, and corduroy trousers. He had neither shirt, shoes, nor hat, although the rain was falling fast. The others were habited in blankets or skins, and wore conical grass hats, resembling in shape those of the Chinese.

The first inquiry was, whether we were Boston or King George's ships, by which terms they distinguish Americans and English.

They brought with them for sale some fish and a few furs. On the latter they appeared to set a high value, and were not a little disappointed when they learned that we had no desire to purchase them. They readily parted with their fine fish for a few fish-hooks and a little tobacco.

These Indians were short, thick-set, bow-legged, muscular, and seemed capable of enduring great fatigue. The most obvious peculiarity was the shape of their heads, which appeared to have been compressed, both before and behind, so as to give them the form of a wedge. Their cheek-bones were high, and their eyes, which were fine, were set wide apart: their colour was a light copper. The oblique eye of the Chinese was not uncommon, and they had long flowing hair: aquiline or Roman noses were prevalent. Their countenances wore an expression of wildness, and they had, in the opinion of some of us, a melancholy cast of features.

It was amusing to us, who had no very exalted opinion of the Feejeeans, to observe the contempt our prisoner Vendovi entertained for these Indians, which was such that he would hardly deign to look at them.

They manifested little curiosity, which was not excited even by the appearance of a ship so much larger than any they could have before seen, armed and manned in a manner so superior to what is usual in the vessels that visit them for traffic.

They wore but few ornaments, and that on which they seemed to set the greatest value was a small silver tube stuck through the cartilage of the nose. A few of them had small brass bells suspended around the rim of their ears.

Their language was one of the most disagreeable we had yet heard full of gutturals, and the sounds *klick*, *kluck*, and *tsck*.

Late in the afternoon, we reached and weathered the low sand-point, called by Vancouver New Dungeness, and stood over for his Protection Island. We passed within less than a quarter of a mile of the point, where we had three and a half fathoms water.

After passing that island, an extensive bay opened, on whose shores we saw the long poles mentioned by Vancouver, and represented in his book. The use of these he was unable to discover, but the Indians informed us that they were for the purpose of suspending nets for taking the wild-fowl that frequent these shores in great numbers. On these poles the nets are set up at night, at which time the geese search these grounds for food: fires are then lighted, which alarm the birds, and cause them to fly against the nets, by which they are thrown upon the ground, where, before they have time to recover themselves, they are caught and killed.

The description of Vancouver is so exactly applicable to the present state of this port, that it was difficult to believe that almost half a century had elapsed since it was written. The beautiful woods and lawns of Protection Island, in particular, exist unchanged. The lawns still produce the same beautiful flowers and shrubs, and although closely surrounded by dense woods, do not seem to have been encroached upon by their luxuriant growth, although there is no apparent reason why it should not long ere this have overrun them.

Our anchorage in Port Discovery was close to the shore, in twenty-seven fathoms water. It is a well-protected harbour, and very convenient of access, but the depth of water and the high precipitous banks, would almost preclude its being made the seat of a settlement.

The name of Port Discovery was given by Vancouver. It is eight miles long, two miles in average width, and its points, which terminate in low sandy projections, interlock each other. The shores are supplied with large quantities of shell-fish. Protection Island covers it completely to the north, and would render it easily defensive against the most formidable attack. The only objection to it as a harbour is that already spoken of, the great depth of the water, which in the middle is no where less than forty or fifty fathoms, and is often as much as sixteen fathoms close to the shore.

The Indians whom we found dwelling here are of the Clalam tribe. They occupy a few miserable lodges on one of the points, and are a most filthy race, so much so indeed that to enter their lodges is absolutely disgusting. They are no more than a few rudely-cut slabs, covered in part by coarse mats.

There is no permanent settlement of Indians at Port Discovery, and during our stay we had visiters from the various neighbouring tribes. The two sexes of all who visited us were dressed almost alike, and can hardly be distinguished in external appearance from each other: both wear their hair long, and both are equally dirty. All the adults have their heads much flattened, which appears to be performed as it is among the more southern tribes, by compressing the frontal and occipital bones by several thicknesses of bark, until they become set, and the head takes a permanent shape.

Their children seem to give them but little trouble: in their infancy they are tied to a piece of bark, which is hung to a tree or pole, where it is kept in motion by a string fastened to the toe of the mother, as is represented in the wood-cut at the end of the chapter.

These Indians appear to have but few of the comforts, and barely the necessaries of life. They live principally on fish, shell-fish, the cammass-root, and potatoes. They have muskets and bows and arrows: the bows are short and small, but possess great strength, and are made of yew: their arrows are pointed with iron or bone.

They also possess large sheath-knives, which they procure from the Hudson Bay Company, in exchange for furs, and from the same source they obtain blankets. For these articles the Company has a regular tariff of prices, which however, is not adhered to when a Boston ship arrives. The natives are sufficiently alive to the advantages they derive from competition, and boasted that in such cases they frequently obtained four or five blankets for articles that usually bring them only one. It was the hope of so advantageous a traffic that caused so much satisfaction when we arrived, and the failure of this hope produced, as we have seen, no little disappointment.

They are not, however, wholly dependent on this trade for their clothing, for some of the tribes manufacture a sort of blanket from dogs' hair, which is substantially woven.

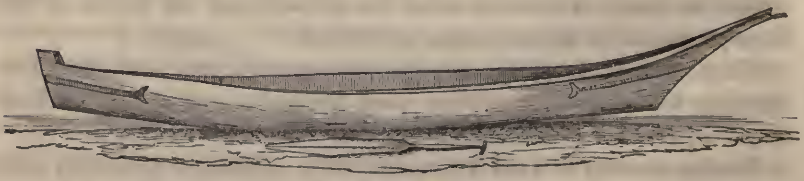
During our stay at Port Discovery, they supplied us plentifully with venison, ducks, geese, salmon, a large species of cod, flounders, herrings, and crabs. They also brought shell-fish, among which were the common clam, (the quahog of the Eastern States,) mussels, and small oysters.

Besides the ornaments we saw among our first visiters, some wampum-belts and strings of dentalium-shells were observed. They have a great passion for carved pipes, for which they cultivate small quantities of a species of tobacco. They also smoke the leaves of the dwarf Arbutus mixed with their tobacco: these are powerful astringents, and are also frequently chewed.

The colour of the younger natives is almost white, so much so as to show the blush on the cheek; and some of the women would with difficulty be distinguished in colour from those of European race. The women are to be seen weaving mats, after the Chinese fashion, of bullrushes (Scirpus lacustris), which they place side by side and fasten together at intervals. These are used, as has been stated, to cover the framework of their lodges.

Instead of the silver tube which has been spoken of, the women have a white bone stuck through the cartilage of their noses. This is kept bright, and may be said to be the only clean thing about their persons. The whole burden of domestic occupation is thrown upon them, for the men are to be seen lounging about the whole day in the sun, and spend their nights in gambling.

The canoes of this region differ from any thing we had seen on the voyage. They are made from a single trunk, and have a shape that may be considered elegant, and which is preserved from change by stretching or warping by means of thwarts. The sides are exceedingly thin, seldom exceeding three-fourths of an inch, and they are preserved with great care, being never suffered to lie exposed to the sun, for fear of rents and cracks. When these do occur, the canoe is mended in a very ingenious manner; holes are made in the sides, through which withes are passed and pegged in such a way that the strain will draw it tighter; the withe is then crossed, and the end secured in the same manner. When the tying is finished, the whole is pitched with the gum of the pine. This is neatly done, and answers the purpose well.



CANOE OF OREGON INDIANS.

Although the natives we saw at Port Discovery appeared to be a peaceable race, the neighbouring tribes are frequently at war, and spoke of scalping, and other exploits, as practised by our own aborigines.

Apprehensive that difficulties similar to those we met with in the Feejee Group might possibly occur with these Indians, I deemed it expedient to issue the following order.

### GENERAL ORDER.

The undersigned informs the officers and crews under his command, that the duties upon which they are about to enter will necessarily bring them in contact at times with the savage and treacherous inhabitants of this coast; and he therefore feels it his duty to enjoin upon them the necessity of unceasing caution, and a restrictive and mild system in all their intercourse with them.

In my General Order of July 13th, 1839, my views are expressed fully respecting our intercourse with savages, and I expect that the injunctions therein contained will be strictly regarded.

With a knowledge that many of the misfortunes that have befallen previous voyagers on this coast, have arisen from an unrestrained and unguarded intercourse with the natives, he deems it important to order officers in charge of boats, and those having men under their direction, to make it their especial duty to govern them so as to avoid any disputes or maltreatment of the Indians, and that force is never to be resorted to but in cases of self-defence.

No officer or man will be allowed to visit the shore without arms; and boats' crews, when surveying or on other duty, will be furnished with such as are necessary for their protection.

Charles Wilkes,
Commanding Exploring Expedition.

U. S. Ship Vincennes,
May 1st, 1840.

We remained at Port Discovery until 6th May, during which time we were employed in surveying the harbour and exploring the country. Our botanists had a large and interesting field opened to them, and there are few places where the variety and beauty of the flora are so great as they are here. Dodecatheon, Viola, Trifolium, Leptosiphon, Scilla (the cammass of the natives), Collinsia, Claytonia, Stellaria, &c., vied with each other in beauty, and were in such profusion, as to excite both admiration and astonishment. According to Mr. Brackenridge, the soil on which the plants grow consists of a light-brown loam, but the general character of the soil around Port Discovery is a thin, black, vegetable mould, with a substratum of sand and gravel.

The trees grow so closely that in some places the woods are almost impenetrable. The timber consists principally of pine, fir, and spruce. Of the latter there are two species, one of which resembles the hemlock-spruce of the United States: it has a very tall growth, and puts out but few, and those small, lateral branches. Some maple-trees grow in the open grounds and on the banks, but they are too small to be of any service to the settler. Several trees which we cut down to make spars for the Vincennes, proved, although healthy in appearance before they were felled, to be more or less defective: the wood was sound and compact on one side only, while on the other it was open-grained and fibrous.

Several of the officers made excursions into the woods after game. In these they found much difficulty, in consequence of the quantity of fallen trees, that lay crossing each other in every direction. No large game, however, was seen. Of birds, crows, robins, &c., were in abundance; and some beautiful specimens of land-shells (Helices) were obtained.

Soon after our arrival at Port Discovery, I despatched an Indian with a letter to the fort of the Hudson Bay Company at Nisqually, at the upper end of Puget Sound, to request that a pilot might be sent me. My interview with the native whom I employed for this purpose was amusing. He appeared of a gay and lively disposition: the first thing he did, when brought into the cabin, was to show me a cross and repeat his ave, which he did with great readiness and apparent devotion; but he burst into loud laughter as soon as he had finished repeating it. He and I made many efforts to understand each other, but without much success, except so far as the transmission of the letter to Fort Nisqually, and the reward he was to receive on his return.

In the excursions of the officers, several burial-places were met with. The corpses are not interred; but are wrapped in mats and placed upon the ground in a sitting posture, and surrounded with stakes and pieces of plank to protect them from the weather and wild beasts.

On the 5th of May, the officers were all engaged in surveying, while I occupied one of the points as a station, where I made astronomical and magnetic observations. I found the latitude 48° 02′ 58″ N.; the longitude 123° 02′ 07·5″ W.; the variation was 20° 40′ E.

The temperature in the shade, was 55°.

On the 6th of May, finding that the messenger whom I had despatched to Fort Nisqually did not return, I determined to proceed towards that place without further delay. We therefore got under way at half-past ten, and beat out of Port Discovery: we then stood towards Point Wilson (of Vancouver), which forms one side of the entrance into Admiralty Inlet. Turning the point, we entered the inlet, and soon anchored in Port Townsend, on its northern side, in ten fathoms water.

Port Townsend is a fine sheet of water, three miles and a quarter in length, by one mile and three quarters in width. Opposite to our anchorage is an extensive table-land, free from wood, and which would afford a good site for a town.

The bay is free from dangers and is well protected from the quarters whence stormy winds blow. It has anchorage of a convenient depth; and there is abundance of fresh water to be had.

In the afternoon, we landed and examined the table-land. The next day we were engaged in surveying the bay, which we commenced at an early hour. Our base was measured on a straight and level beach, nearly a mile in length, upon the north shore. At the extreme west end of the bay, we found a lodge or two of Indians. In each of these, there were apparently three or four families; and they had a patch of potatoes growing.

The soil in this place is a light sandy loam, and appears to be very productive: it was covered with wild flowers, and strawberry plants in blossom.

From this point, Mount Baker is distinctly seen to the northeast, and forms a fine sight when its conical peak is illuminated by the setting sun.

On the 7th, we had completed the survey; but the wind coming up from the southward and eastward, which was contrary to our intended course, we determined to remain. At noon, there was a favourable change, when both vessels moved up about eight miles, and anchored in what I called Port Lawrence. This is just at the entrance of Hood's Canal, and gave us a view both of it and Admiralty Inlet. The weather was unpleasant, and the only duty that could be performed was that of dredging. Several new and interesting specimens were thus taken. The natives brought us fish and venison in plenty, besides geese and ducks.

On the morning of the 8th, we made the survey of Port Lawrence, beginning at daylight. This being completed, I took advantage of the tide making to get under way with a fresh breeze, and passed with both vessels as far as a small cove on the west side of the inlet opposite to the south end of Whidby's Island. Here we anchored before sunset, and I named it Pilot's Cove, from the circumstance of having been here joined by the first officer of the Hudson Bay Company's steamer, commanded by Captain M'Niel, who on hearing of our arrival, kindly sent him down to pilot up the ship.

We were under way soon after daylight, taking advantage of the tide, and continued beating as long as it lasted. This was about two hours, by which time we reached another small cove. This was named Apple-tree Cove, from the numbers of that tree which were in blossom around its shores. This cove answers well all the purposes of a temporary anchorage. Before the tide began to make in our favour, we had finished the survey of the cove. We again sailed, and at dark anchored under the west shore, near a fine bay; which the next day was surveyed, and named Port Madison. This is an excellent harbour, affording every possible convenience for shipping.

The scenery of this portion of Admiralty Inlet resembles strongly parts of the Hudson river, particularly those about Poughkeepsie and above that place. The distant highlands, though much more lofty, reminded us of the Kaatskills. There were but few lodges of Indians seen on our way up; and the whole line of shore has the appearance of never having been disturbed by man.

The wind proved fair the same afternoon, and we passed up the inlet, taking the passage to the right of Vashon's Island, and finally, towards evening, anchored just below the narrows leading into Puget Sound, within a few yards of the shore and under a high perpendicular bank, in sixteen fathoms.

The shores of all these inlets and bays are remarkably bold; so much so, that in many places a ship's sides would strike the shore before the keel would touch the ground.

On the 11th of May, the morning proved calm, of which I took advantage to survey this part of the sound, which we accomplished before the afternoon, when the tide served us. At 3 P. M. we again weighed our anchors, but had great difficulty in getting beyond the reach of the eddy winds occasioned by the high banks. The scenery about this pass becomes very fine: on all sides are high projecting bluffs of sandstone, rising almost perpendicularly from the water, with a great variety of shrubs along their base. The tide, which runs through the narrows with great velocity, causes many eddies and whirlpools, through which a ship is carried with extraordinary rapidity, while the danger seems to be imminent. The Porpoise succeeded in entering the narrows first, and in a few minutes was lost sight of; the Vincennes entered, and seemed at first to be hurrying to destruction, with her sails quite aback. We were carried onward wholly by the force of the tide, and had backed and filled only once before we found ourselves in as spacious a sound as the one we had just left. This narrow pass seems as if intended by its natural facilities to afford every means for its perfect defence.

Twelve miles more brought us to the anchorage off Nisqually, where both vessels dropped their anchors about eight o'clock. Here we found an English steamer undergoing repairs. Soon after we anchored, I had the pleasure of a visit from Mr. Anderson, who is in charge of the fort, and Captain M'Neil. They gave me a warm welcome, and offered every assistance in their power to aid me in my operations.

Nothing can exceed the beauty of these waters, and their safety: not a shoal exists within the Straits of Juan de Fuca, Admiralty Inlet, Puget Sound, or Hood's Canal, that can in any way interrupt their navigation by a seventy-four gun ship. I venture nothing in saying, there is no country in the world that possesses waters equal to these.

The anchorage off Nisqually is very contracted, in consequence of the rapid shelving of the bank, that soon drops off into deep water. The shore rises abruptly, to a height of about two hundred feet, and on the top of the ascent is an extended plain, covered with pine, oak, and ash trees, scattered here and there so as to form a park-like scene. The hill-side is mounted by a well-constructed road, of easy ascent. From the summit of the road the view is beautiful, over the sound and its many islands, with Mount Olympus covered with snow for a background. Fort Nisqually, with its out-buildings and enclosure, stands back about half a mile from the edge of the table-land.

In the morning I found that the ship lay opposite to a small run of water, and finding the situation an agreeable one, the Vincennes was safely moored there, and the boats hoisted out.

Having arranged my plans, I proceeded forthwith to put so much of them as lay within my own means into execution: the Porpoise and boats were prepared for surveying, and the land parties organized. Other parts of my proposed plans depended on the co-operation of the Peacock. My instructions, for this purpose, to Captain Hudson had been prepared previous to our arrival. I had, also, been informed that the Peacock and Flying-Fish had reached the Columbia river in safety; and this news, although it turned out to be untrue, was for the moment a source of congratulation.

The Porpoise, with two of the Vincennes' boats, under Lieutenant-Commandant Ringgold, were directed to take up the survey of Admiralty Inlet. The launch, first cutter and two boats of the Vincennes were placed under the command of Lieutenant Case, to survey Hood's Canal.* The land party intended to explore the interior, was placed under the command of Lieutenant Johnson of the Porpoise. With him were associated Dr. Pickering, Mr. T. W. Waldron of the Porpoise, Mr. Brackenridge, Sergeant Stearns, and two men. Eighty days were allowed for the operations of this party, which it was intended should cross the Cascade range of mountains, towards the

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* For orders, see Appendix XI

Columbia, proceed thence to Fort Colville, thence south to Lapwai, the mission station on the Kooskooskee river, thence to Wallawalla, and returning by the way of the Yakima river, repass the mountains to Nisqually.—(The orders are given in Appendix XII.)

The other land party consisted of Messrs. Drayton and Waldron of the Vincennes, myself, and two servants. Our intended route lay across the country to the Columbia river. First, I proposed to visit Astoria, then Fort Vancouver, and the Willamette settlement, and to proceed up the river as far as Wallawalla. From Astoria I proposed to send parties from the Peacock into the interior, and to set on foot the survey of the Columbia river, by means of her boats.

The establishment of an observatory also claimed my attention: a suitable site was found on the top of the hill, within hail of the ship. Here the instruments and clocks were landed, and put up in a small clearing, whence the trees had been cut in order to supply the steamer with fuel.

All these preparations occupied us until the 15th, when the brig was reported as ready, and sailed the same day. During the above interval I had the pleasure of visits from Dr. Richmond and Mr. Wilson, of the Methodist Mission, stationed at this place.

In returning the visits of Mr. Anderson and Captain M'Niel, I had an opportunity of seeing the so-called fort. It is constructed of pickets, enclosing a space about two hundred feet square, with four corner bastions. Within this enclosure are the agents' stores, and about half a dozen houses, built of logs, and roofed with bark. This fort was considered quite large when it was first established, but since it has become an agricultural post as well as a trading one, it is found to be too small. Its locality is also ill chosen, on account of the difficulty of obtaining water, which has to be brought from a distance of nearly a mile. I was informed that there was now little necessity for any sort of protection against the Indians, who are but few in number, and very peaceably disposed.

Mr. Anderson and Captain M'Niel both reside in the fort with their families: both are married to half-breeds, and have several fine children. After spending some time in conversing about my plans, Mr. Anderson was kind enough to show me his garden, which is in an enclosure just without the pickets. Here I saw peas a foot high, strawberries and gooseberries in full bloom, and some of the former nearly ripe, with salad that had gone to seed, three feet high, very large and thrifty.

Near by were to be seen fine fields of grain, large barns and sheepfolds, agricultural implements, and workmen with cattle engaged in the various employments of husbandry.

I also visited Dr. Richmond, who had been settled here for some months, and occupies a nice log house, built on the borders of one of the beautiful prairies. Here I found Mrs. Richmond and Mrs. Wilson, with four fine, rosy, and fat children, whose appearance spoke volumes for the health of the climate. This mission has but recently been established: so far as respects its prospects, they are not very flattering. I shall have occasion hereafter to allude to the operations of the missions, and shall therefore defer any farther remarks at present. The location of the mission-house, on the borders of an extensive and beautiful prairie, can scarcely be surpassed, and would be admirably adapted for a large settlement, if the soil was in any respect equal to its appearance. This is composed of a light-brown earth, intermixed with a large proportion of gravel and stones: it requires an abundance of rain to bring any crop to perfection, and this rarely falls during the summer months. At the season when we arrived, nothing could be more beautiful, or to appearance more luxuriant than the plains, which were covered with flowers of every colour and kind: among these were to be seen Ranunculus, Scilla, Lupines, Collinsia, and Balsamoriza (a small sunflower peculiar to Oregon); but the soil is quite thin, and barely sufficient for these in many places. The best land occurs where the prairies are intersected or broken by belts of woods, that have a dense undergrowth, consisting of Hazel, Spiræa, Cornus, and Prunus. On the borders of these belts are scattered oaks and some ash, arbutus, birch, and poplars, and in some places the yew is to be found; but the predominant character of the vegetation is of the tribe of Coniferæ, which seem to occupy large ranges of the country, and among which the cedar is found to attain a large size.

In connexion with the Company's establishment at Nisqually, they have a large dairy, several hundred head of cattle, and among them seventy milch cows, which yield a large supply of butter and cheese: they have also large crops of wheat, peas, and oats, and were preparing the ground for potatoes. These operations are conducted by a farmer and dairyman, brought from England expressly to superintend these affairs. A few Indians are engaged in attending the flocks, and the Company's servants are almost exclusively employed as labourers.

I have mentioned these agricultural establishments as connected with the Hudson Bay Company, and they are in reality so; but as their charter precludes their engaging in these operations, another company has been organized, under the title of the "Puget Sound Company," the shares of which are held by the officers, agents, and servants of the Hudson Bay Company, and its officers are exclusively chosen from among them. Dr. M'Laughlin, for instance, chief officer and governor of Fort Vancouver, on the part of the Hudson Bay Company, is also a director of the Puget Sound Company, and has the entire management of its concerns: his salary is five hundred pounds.

The capital of the Puget Sound Company is five hundred thousand pounds, divided into shares of one hundred pounds each: only two hundred thousand pounds of this have been paid in. The operations of this Company are in consequence large: they began by making large importations of stock from California, and some of the best breeds of cattle from England; they have also entered into farming on an extensive scale, using as labourers the servants of the Hudson Bay Company, who are bound by their contracts to do all manner of service that may be required of them, even to the bearing of arms.

This Company have the supplying of all the forts and stations of the Hudson Bay Company on the west side of the American continent, and also furnish the Russian ports with grain, butter, and cheese: of the former article the Russians take about fifteen thousand bushels. It is also their intention, when they shall have succeeded in breeding a sufficient stock of cattle and sheep, to export hides, horns, tallow, and wool, to England, in the return ships, which now go home comparatively empty, as the furs occupy only a small portion of the capacity of the ship. In this way it may readily be perceived that they will be enabled to drive a profitable trade, particularly when it is considered how little care the cattle require in this territory, in consequence of the grass and natural hay which the soil affords at all seasons. It is the prospect of the advantageous results to be derived from these operations, that has induced the Hudson Bay Company to change their trading establishments into large agricultural ones. For some years previous to our arrival, they had not been able to meet their own wants, and at the same time fulfil their contracts with the Russians. They were therefore obliged to purchase from the settlers in the territory, as well as send to California, to procure the requisite quantity of agricultural products. A demand was consequently created for wheat, and all that could be raised in the Willamette settlements was bought for six shillings (seventy-five cents) a bushel, and paid for in drafts on their stores in goods, at fifty per cent. advance on the first London cost. This gave an encouragement to the small farmers, that was fated to meet with grievous disappointment the next season; for the Company was able not only to meet their engagements, and their own wants, but had, besides, a surplus. The prices consequently would be merely nominal, unless raised by the influx of new settlers. Whether the latter cause had any effect in creating a market, I know not; but I understand that in 1842 some of the settlers fed their horses upon their finest wheat.

The scenery around Nisqually is very much enhanced in beauty by the splendid appearance of Mount Rainier, which lies nearly east of it; and from some of the open prairies there are three of these magnificent snowy peaks in sight. They are all nearly regular cones, with cleft tops, as though they had a terminal crater on their summit. I was exceedingly anxious to make the ascent of one of these, Mount Hood; but owing to the non-arrival and loss of the Peacock, I found it impossible to do so.

On the 13th May, Mr. Anderson was kind enough to present me with two bullocks for the crews, and a quantity of vegetables, for which we felt ourselves much indebted. A large supply of milk was also sent to us daily from the dairy, and many other little kindnesses and attentions were manifested.

To return Captain M'Niel's visit, I went on board the steamer, which is called the Beaver. She is of one hundred and twenty tons burden, and fitted with a low-pressure engine, similar to those in use in the English boats. She was now very much out of repair, having been some years on this station. Her employment was to ply between the northern posts with supplies, and bring back the returns of the season's trade; at the same time trading at the different points with the Indians. Captain M'Niel is a native of Boston, and was extensively engaged in the northwest trade. He proved to be a serious competitor with the Hudson Bay Company in their business, and was in consequence bought off. He is now a trader in the Company's service, owning stock, and receiving a share of the dividends; to qualify him for which, it became necessary for him to become a naturalized British subject.

The steamer is ill adapted to the services on which she is employed. for she consumes a large quantity of fuel, and has not sufficient capacity to carry as much as is necessary for her entire voyage. She is therefore obliged to stop at intermediate places to obtain a supply of wood, which must be cut by her own crew. She is fitted with a suitable armament, barricades, and boarding-nettings, which are deemed very essential on the northern coast, where the savage tribes are both hostile and numerous.

On the 17th, the boats left the ship under Lieutenant Case, Messrs. Totten, Colvocoressis, and May. I had by this time succeeded in establishing the observatory, and had ordered a log house to be built to perform the pendulum experiments, and another for the purposes of drawing, &c. These I purposed to use on my return from the

Columbia river trip. Lieutenant Carr, with Lieutenant Budd and Mr. Eld, were left in charge of the duty connected with the observatory, as well as of the ship.

Knowing how much time is lost on boat expeditions by the use of grog, and the accidents that are liable to occur when a strict watch cannot be kept over it, I decided not to send any spirits with the party. I am fully persuaded myself, that that portion of the ration is unnecessary; but in order not to deprive any of the sailors of it who might deem it essential, I had the boats' crews called aft, and found that nearly all were in the regular habit of drawing their grog. I then offered to any who might wish to continue the use of that part of their ration, the option of remaining with the ship, and having their places in the boats supplied by others. There was no hesitation on the part of any of them: all wished to go; and all were willing to give up their spirit ration. I take this occasion to say, that all the most laborious and exposed duty of the Expedition, was performed without the spirit ration, and I am well satisfied that it may be dispensed with without injury to any one, and indeed greatly to the benefit of the naval service.*

The land expedition, under Lieutenant Johnson, was finally ready Few can imagine the chafferings, delays, and vexations, attendant upon the equipment of a land party in this region: the buying of horses from the Indians; the non-arrival of guides; the various equipments necessary for loading the horses, securing the loads to prevent injury to the horses' backs, and the loss of them, all consume much time, and need continual foresight. Through all these difficulties and perplexities, which were of a kind that most tries the patience, Lieutenant Johnson struggled. An Indian is not slow in perceiving your wants, and views the dilemmas in which you may be placed with a becoming sang-froid. Mr. Anderson's kindness had obviated many of these obstacles; but it was impossible to proceed without the aid of the Indians, who were always prone to recede from their bargains, under a feeling that they had not received enough. After the bargain was completed, and the price agreed upon, under the form of "potlatch," or "gift," the equivalent was always to be again treated for, and thus the price of the article or service was often very much enhanced. In dealing with these Indians, it was always necessary to feign a great indifference of manner, in order to obtain the article, and also in closing the bargain after the preliminaries are settled.

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* Since our return, Congress has reduced the spirit ration one-half: this is a good step, but its total abolishment would be a better one.

They readily close when they think their customers indifferent, for fear of a competitor among themselves, and are not in the habit of forming a combination, as they show little or no confidence in each other, and are rather disposed to rivalry. As far as our observations went, the chiefs have little authority among them.

Having seen the other parties all off, or ready to start, our party for the Columbia river also set out. It was a strange cavalcade, for most of us were but sorry horsemen, and we had every variety of accoutrements, from the saddle and bridle to the bare back and halter. We were eight in number: Messrs. Drayton, Waldron, and myself, two servants, two Indians, and a Canadian guide, with four pack-horses. All the horses and the guide were kindly furnished us by the gentlemen at the fort, to carry us as far as Cowlitz Farms, about sixty miles distant, where we intended taking canoes.

Our Indians, though partially clothed in worn-out European clothing, still showed their free and easy carriage on horseback: the few ribands and cock's feathers that were stuck in their caps gave them a flaunting kind of air; and they manifested a species of self-esteem that was not unpleasing, and betokened an independence and want of care, in good keeping with their mode of life. These savages should never be seen but on horseback, in which position they are really men, and inspire a certain degree of respect. When dismounted, all these qualities vanish, and the Indian becomes the lazy, lounging creature, insensible to any excitement but his low gambling propensities. They have a peculiar knack in managing their horses, and this, too, without any apparent means of controlling them, for their only bridle is a single cord fastened to the lower jaw; with this they contrive to govern the most refractory animals, without the aid of whip or spur, and will urge to speed an animal that has become all but lifeless under our guidance. They practise great cruelty to their horses, and pay no regard whatever to the state of their backs. In travelling in this country, all scruples and feelings in respect to sore backs, jaded, lamed, or half-starved horses, must be laid aside; and my advice is, keep away from your horses until they are saddled, and leave this to your guides who own them.

The direction of our route was nearly south over the plain, passing occasionally a pretty lawn, and groves of oak and ash trees. At the distance of nine miles we reached the river Nisqually, whose channel is sunk three hundred feet below the plain, between almost perpendicular banks. The ravine is about half a mile wide, and is filled with a large growth of timber, which is occasionally uprooted by the torrents that pass down, on the melting of the snows of the mountains. The usual bed of the stream is about one hundred yards wide, with a rapid current: its course in this place was north-northwest, and its average depth at the ford about three feet. We again ascended a similar bank on the opposite side to the plain. Our route then continued through most beautiful park scenery, with the prairie now and then opening to view, in which many magnificent pines grew detached. The prairie was covered with a profusion of flowers.

After crossing Shute's river, in all respects similar to the Nisqually, we encamped, just before night, having travelled about twenty-two miles. Our tents were pitched, and fires made; but on examining our alforcas,* we were reminded that we were but novices in such travelling, for we found that all our small stores had been destroyed in fording the streams, the sugar being turned into syrup, &c. This was a mishap over which we had a hearty laugh; it rendered the part that was saved doubly precious, and made us enjoy our evening meal. After our tents were pitched, one of our servants discovered a snake in the tent, which caused him much alarm; but such a circumstance is considered so common, that it excites but little or no surprise in those who have travelled in Oregon. The abundance of such reptiles may be considered one of the characteristics of the country, and if one is not bitten before the end of a journey, he may think himself fortunate. In the lower country, however, there are few snakes that are venomous, and the rattlesnake is rarely seen, in consequence of the wetness of the soil and dampness of the climate: but in the middle section, where it is dry, they are to be found in great numbers.

Being somewhat fatigued, we all slept soundly. The guide and Indians, according to the custom of the country, after rolling themselves in their blankets, lay down near the fire (which continued to burn brightly all night) without any shelter. In the morning we found by the tracks that elk and deer had been near us, probably attracted by the fire. Our horses having been hobbled, were easily procured: they had not strayed, as the grass around the tents was of the most nutritious kind.

In the morning, when we resumed our journey, the park scenery increased in beauty, and it was almost impossible to realize that we were in a savage and wild country, and that nature, not art, had perfected the landscape. Beautiful lakes, with greensward growing to the water edge, with deer feeding fearlessly on their margin, and every tint of flower, many of which were not new to our gardens at home, strewn in profusion around; we could hardly, in galloping along, but expect to see some beautiful mansion, as a fit accompaniment to such scenery.

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* A kind of saddle-bag.

We soon reached the Bute Prairies, which are extensive, and covered with tumuli or small mounds, at regular distances asunder. As far as I could learn, there is no tradition among the natives relative to them. They are conical mounds, thirty feet in diameter, about six to seven feet high above the level, and many thousands in number. Being anxious to ascertain if they contained any relics, I subsequently visited these prairies, and opened three of the mounds, but nothing was found in them but a pavement of round stones.

After a ride of twelve miles, we reached Chickeeles river, which empties itself into Gray's Harbour, about forty miles north of the Columbia. We found the stream about two hundred yards wide in this place, and running in a southwest direction. On its banks there were a few lodges, containing about twenty Indians of the Nisqually tribe, who had come here to make preparations for the salmon-fishery, then about to commence, (20th May.) They were a miserable-looking set, barely covered with pieces of dirty blankets and skins.

Subsequently, on my return, I made a sketch of this place, after the salmon-fishery had been established, which is represented in the vignette.

We stopped here for two hours, to rest our horses. Hanging around their lodges were hundreds of lamprey eels, from a foot to eighteen inches long, and about an inch in diameter. We were told that these,

J.J.BUTLER.N.Y.

SALMON FISHERY ON CHICKEELES RIVER.

fish are caught in great quantities, and dried for food; they are also used for candles or torches; for, being very full of oil, they burn brightly.

These Indians had a quantity of the cammass-root, which they had stored in baskets. It is a kind of sweet squills, and about the size of a small onion. It is extremely abundant on the open prairies, and particularly on those which are overflowed by the small streams.

After leaving these lodges, a few yards beyond the soil changed from gravel to a rich unctuous clay. We crossed a branch of the Chickeeles, and passed over some high hills, which we found exceedingly difficult to accomplish, being in places quite miry, in which our pack-horses not unfrequently were stuck fast: few roads in any country could be worse.

The woods and underbrush now became so thick that it was with difficulty that a horse and his rider could pass; for, whilst the former was extricating his legs from the mud-holes, the latter required all his attention and exertions to prevent himself from being strangled or dragged from his horse by the branches. This was not all: fallen trees were to be jumped or hobbled over as we best could, which was very exhausting to the patience. Our friends at Nisqually had told us we should find this part of the road good, yet we found it barely passable. I would, however, advise all who travel this road to prepare for a bad one. But what increased the discomfort of the road to me, was the news I received by an Indian messenger, with letters announcing to me that the Peacock had not yet arrived.

We finally succeeded in reaching the top of the hill, which is about fifteen hundred feet high, by a zigzag path, literally climbed by steps which had been made by the horses' feet, and without which it would be impossible to mount it in the direction we did, the clay is so slippery.

After reaching the crest of this ridge, we were amply repaid for our labour by one of the most charming views I saw in Oregon, extending to a distance over the luxuriant country, while at our feet lay one of the beautiful prairies, bedecked in every hue of the rainbow, with the Chickeeles winding through it. We descended, and passed over the prairie to some Indian lodges, whose inhabitants were squalid and dirty as usual; and as an evidence of their want of natural feeling, near by lay one of their horses, with one of his fore-legs broke short and just hanging by the skin. To the question, why they did not kill the horse, they gave no answer, but looked at the interpreter with apparent contempt and listlessness. Desirous of avoiding the lodges, with their inmates and vermin, we proceeded about a mile beyond them, and encamped on the edge of a fine forest of pines.

Notwithstanding a hard rain fell during the night, we passed it very comfortably. The Indians supplied us with some fresh salmon, which they had already begun to take in the rivers that were in sight from our encampment. They reported that the river was navigable for canoes, though occasional obstructions were met with from fallen timber.

Mr. Drayton found here some beautiful pieces of cornelian, of large size and bright red colour.

The morning proved beautiful, and one of the finest days succeeded that I ever remember to have seen. Our route lay through alternate woods and prairies, the former composed of large pines and cedars. Several considerable streams of water were passed, whose banks were not so high as those before met with; the latter covered with strawberries, so tempting as to induce us to dismount and feast upon them, and many plants that excited a feeling of interest, and reminded us of home: among the number was the red honeysuckle (Caprifolium), which was in full bloom. After passing extensive cammass plains, we reached the Company's farm on the Cowlitz, which occupies an extensive prairie on the banks of that river.

They have here six or seven hundred acres enclosed, and under cultivation, with several large granaries, a large farm-house, and numerous out-buildings to accommodate the dairy, workmen, cattle, &c. The grounds appear well prepared, and were covered with a luxuriant crop of wheat. At the farther end of the prairie was to be seen a settlement, with its orchards, &c., and between the trees, the chapel and parsonage of the Catholic Mission gave an air of civilization to the whole. The degree of progress resembled that of a settlement of several years' standing in our Western States, with the exception, however, of the remains of the conquered forest; for here the ground is ready for the plough, and nature seems as it were to invite the husbandman to his labours.

We were kindly received by Mr. Forrest, the superintendent, who quickly made arrangements for canoes to carry us down the Cowlitz and Columbia river to Astoria, or Fort George. He also provided us with an excellent repast, and pressed us to remain over night, which we would gladly have done, had I not found that it would be impossible for us to reach Astoria the next day if we did so.

At this farm the Company have a large dairy, and are about erecting a saw and grist mill. The superintendent's dwelling is large, and built of well-hewn logs; with the workmen's houses, &c., it forms quite a village.

Large numbers of cattle were being brought in for the night, which is a very necessary precaution in Oregon, in consequence of the numerous wolves that are prowling about; in some places it becomes necessary for the keeper to protect his beasts even in the daytime. The cattle, at times, suffer from drought, in which case the Indians are sent across the river to cut fodder for them, in order to avoid sending the cattle to the cammass plains, where they would be subject to the loss of all their young.

The farm at the Cowlitz has no sort of defences about it, proving, as far as the Indians are concerned, that there is no danger of being molested: indeed their numbers here are too small to enable them to attempt any aggression, and their dependence on the Company, for both food and clothing, too complete to allow them to quarrel, except among themselves; and of such disputes the agent of the Company takes no sort of notice. The Indians belong to the Klackatack tribe, though they have obtained the general name of the Cowlitz Indians. In a few years they will have passed away, and even now, I was informed, there are but three Indian women remaining in the tribe. The mortality that has attacked them of late has made sad ravages; for only a few years since they numbered upwards of a hundred, while they are now said to be less than thirty. The quantity of land actually under cultivation here is six hundred acres, most of which is in wheat. Mr. Forrest told me that the first year it had produced ten bushels per acre, but the present one it was thought the yield would be double.*

Around the superintendent's house is a kitchen-garden, in which all the usual horticultural plants of the United States were growing luxuriantly; the climate was thought to be particularly well adapted to them.

Mr. Forrest informed me that the weather was never actually cold, nor is the winter long. Snows seldom last more than a day or two; fires, however, are necessary during most months of the year. The housing of cattle is resorted to partially; but little or no provision is made for their winter sustenance, as the grass is fit for food the whole year round.

The geographical situation of the Cowlitz Farm is in latitude 46° 30′ N., longitude 123° W.

The guide that Mr. Forrest had sent for was one Simon Plumondon, whom I engaged to carry us to Astoria. He proved to have been the cockswain of General Cass's canoe, when on his trip to the lakes in the

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* The crop of 1841, I was told, at the end of the season, produced seven thousand bushels.

Northwest Territory; and a more useful person I have seldom met with, or one that could be so well depended on. He had been for several years in this territory, having left the Company's service, married an Indian wife, and was now living on a farm of about fifty acres, at the Cowlitz, independent and contented. I have seldom seen so pretty a woman as his wife, or a more cheerful and good housewife; before her marriage she was the belle of the country, and celebrated for her feats of horsemanship.

Plumondon engaged several of the young Indians to accompany him, and with two canoes we were all accommodated. The price for each Indian was to be a check shirt.

During our short stay at Cowlitz, several Indian women brought in pieces of buckskin for sale, which they deem a necessary part of the equipment of a traveller. From them I learned the manner in which they prepare it, which is as follows. Immediately after the animal is killed, the skin, after having all the hair scraped off, is stretched tight on a frame; it is there left until it becomes as dry as parchment, when it is rubbed over with the brains of the animal, which impart oil to it; it is then steeped in warm water, after which it is dried in the smoke, two women stretching it all the time it is drying; it is then again wet and wound tightly round a tree, from which it is again taken, smoked, and drawn by women as before; when nearly dry, it is rubbed with the hands as in washing, until it is soft and pliable; and then it is ready for use.

Mr. Forrest stated to me that he had put a suit on, twenty-four hours after the animal had been running in the forest. I am well satisfied that no kind of apparel is so well suited as this to the life of an Indian or trapper, and all who travel in a wild country should be provided with such a dress.

About a mile from the farm-house, we descended a steep bank, two hundred feet high, to the river, where we found our canoes waiting for us. The Cowlitz was here about two hundred yards wide, and very rapid. Our company, or rather crew, consisted of nine young Indians. We were soon seated and gliding down the stream, while each boatman exerted his fullest strength to send us onwards. Just before sunset, when we thought we had made nine miles, we landed and pitched our tents on a small island in the river. The island was covered with drift-wood, which soon enabled us to make a good fire, which the temperature rendered quite acceptable. When our supper was prepared, we found that our Indians had come away destitute of any supply whatever, and that it was necessary to provide for them. This I have generally found to be the case, not only with these

Indians, but with the natives of Polynesia; both require looking after before going on a journey, and will seldom burden themselves with food.

At the place where we embarked I tried the velocity of the stream, which I found three miles per hour, but in some places it was much more rapid. The temperature of its water was 48° Fahrenheit.

During the night I succeeded in getting several observations of stars, for latitude and longitude.

The next morning we made a start betimes, in order to reach Astoria at an early hour. A short distance below our encampment we passed the east fork of the Cowlitz, which is smaller and not navigable even for canoes. We also passed the mouths of several small streams on the west side. Plumondon pointed out that side of the river to me as good trapping-ground, and amused me by the narration of many of the difficulties he had to encounter in taking his game. About noon we reached the Columbia.

The Cowlitz river takes its rise in the Cascade Range, near Mount Rainier, and has many short turns in it. Its banks are tolerably high, until it approaches the Columbia. It is only at high water, in the spring and fall, that the river can be used for boating, at which time the supplies from Vancouver are sent, and the grain, &c., returned, in large flat barges. The soil along the river appears to be of a good quality, a clayey loam with vegetable mould, over trap rock and sandstone. The prevalent trees were poplars, soft maples, ash, fir, pine, and cedar, with some laurel, where the prairies are so low as to be flooded in the month of May

On this river it was reported that coal of a good quality existed, but I examined all the places that indicated it, and only found lignite. This exists in several places, but the largest quantity lies above the East Fork: several specimens of it were obtained.

In the month of September following, I examined the Cowlitz, and found it exhibiting a very different character. A few miles above its mouth there was not water enough to float even a boat, and it was besides filled with rapids. It is not navigable for barges more than three months in a year. The distance we passed down the Cowlitz did not exceed twenty-six miles, although we had been told that it was more than forty.

The route by the way of the Cowlitz will in all probability be that which will hereafter be pursued to the northern waters and sounds. Although there are many difficulties in crossing the rivers, &c., yet it is believed to be the most feasible course.

On our way we met with many canoes passing up, loaded with salmon and trout, which had been taken at the Willamette Falls, and which they were then carrying to trade with the Indians for the cammass-root. We obtained some of the fish as a supply for our Indians.

On entering the Columbia our Indians required some rest, and said they were hungry; we therefore concluded to stop for a short time on its banks. If I were to judge of the whole Cowlitz tribe from the specimens we had with us, I should say they were the merriest set of fellows I ever saw, full of fun, and laughing all day long: I became at last wearied with their incessant gaiety.

The Columbia, where the Cowlitz joins it, is a broad flowing stream, and was at this time much swollen. We had, after entering it, about forty miles yet to make, and it was past noon; but we glided briskly on with the current, although it was by no means so rapid as I had expected to have found it. Near the mouth of the Cowlitz is a high conical hill, which has received the name of Mount Coffin, from its having been a burial-place of the Indians; and the remains of many of their coffins were still to be seen scattered over it. On the opposite side of the river is a high barrier of trap rocks, covered with majestic pines.

About ten miles lower down, we passed Oak Point, where the river turns nearly at right angles, taking its course along a barrier of trap rocks, which it here meets on its west side, and which rises eight hundred feet perpendicularly above its surface. On the other side of the river is one of the remarkable prairies of the country, covered with tall waving grass, and studded with many oaks, from which the point takes its name. What adds additional interest and beauty to the scene is Mount St. Helen's, which may be seen from the sea when eighty miles distant: its height I made nine thousand five hundred and fifty feet.

In this part of the river, which I named St. Helen's Reach, we met the brig Wave, that had brought our stores from Oahu. The master informed me that he had landed them at Astoria, and placed them under the care of Mr. Birnie, who had charge of the Company's fort. The master of the Wave confirmed the report that the Peacock had not arrived, and after a short delay we proceeded. By sunset we had reached Termination Island, and had yet twenty miles to make in a very dark night. We had already passed the only place where we could have encamped, and the natives showed extreme reluctance to go on. They soon desired to return; saying that the night was very dark, and that the bay would be dangerous. This request was overruled, however, and we continued our course, though under apprehension of disaster. The Indians said that many canoes had been lost, and after I became acquainted with this part of the river, I no longer wondered at their objections to pass over it at night; for if there is any wind it becomes exceedingly rough, and dangerous for their canoes.

We found the water quite smooth, and glided on hour after hour without any appearance of a landing. I was at a loss to account for the length of our passage, until I found the tide had been against us. We at last reached what Plumondon called Tongue Point, and afterwards kept skirting the shore for so long a time that I began to have misgivings that we should pass Astoria, and began firing muskets, the usual signal of an arrival. They were immediately answered by others just behind us, and the loud clamour of about forty yelping dogs. These sounds, although discordant, gave us the delightful assurance that we had reached our destination, and might now make our escape from the confined and irksome position we had been in a whole day. Mr. Birnie, the agent of the Hudson Bay Company, met us at the landing, with lanterns and every assistance, and gave us a truly Scotch welcome. We soon found ourselves in his quarters, where in a short time a fire was burning brightly, and his hospitable board spread with good cheer, although it was past midnight. After partaking of the supper, blankets were furnished us, and we were made exceedingly comfortable for the night.

In the morning we had a view of the somewhat famous Astoria, which is any thing but what I should wish to describe. Half a dozen log houses, with as many sheds and a pig-sty or two, are all that it can boast of, and even these appear to be rapidly going to decay.

The Company pay little regard to it, and the idea of holding or improving it as a post, has long since been given up. The head-quarters of their operations have been removed to Vancouver, eighty miles further up the river, since which Astoria has merely been held for the convenience of their vessels. It boasts of but one field, and that was in potatoes, which I can, however, vouch for as being very fine. In former times it had its gardens, forts, and banqueting halls; and from all accounts, when it was the head-quarters of the Northwest Company, during their rivalship with the Hudson Bay Company, there was as jovial a set residing here, as ever were met together. I have had the pleasure of meeting with several of the survivors, who have recounted their banquetings, &c.

In point of beauty of situation, few places will vie with Astoria. It is situated on the south side of the Columbia river, eleven miles from Cape Disappointment, as the crow flies. From Astoria there is a fine view of the high promontory of Cape Disappointment, and the ocean bounding it on the west; the Chinook Hills and Point Ellice, with its rugged peak, on the north; Tongue Point and Katalamet Range on the east; and a high background, bristling with lofty pines, to the south. The ground rises from the river gradually to the top of a ridge five hundred feet in elevation. This was originally covered with a thick forest of pines: that part reclaimed by the first occupants is again growing up in brushwood. From all parts of the ground the broad surface of the river is in view. The stillness is remarkable, and makes it evident that one is yet far removed from civilized life: the distant though distinct roar of the ocean is the only sound that is heard: this, however, is almost incessant; for the stream, though rushing onwards in silence to meet the ocean, keeps up an eternal war with it on the bar, producing at times scenes of great grandeur, but which, as we had already experienced, renders the bar wholly impassable for days together.

The magnificent pine, so often mentioned by travellers, lies prostrate near the tomb of the hospitable chief Concomely, now in ruins. The chief's skull, it is believed, is in Glasgow, having been long since removed by Dr. Gardner.

There were many things to remind us of home: among them was a luxuriant sward of white clover, now in full blossom, and numerous other plants that had found their way here: the trees were also familiar, and truly American. I felt that the land belonged to my country, that we were not strangers on the soil; and could not but take great interest in relation to its destiny, in the prospect of its one day becoming the abode of our relatives and friends.

The Columbia, opposite to Astoria, is four miles wide, but in the middle of the river is an extensive sand-bar, with only a few feet water on it, and at extreme low tides it is bare: the channel is very narrow on each side and difficult to navigate. At Astoria there is only space for a dozen vessels to lie at anchor, and it would therefore be difficult to accommodate any extensive trade. The point of land extends about half a mile below its site, where Young's river joins the Columbia, and forms a bay, on the banks of which Lewis and Clarke wintered. The position of their hut is still pointed out, but the building has long since gone to decay.

Plumondon, who, as I have before mentioned, is an expert trapper, informed me that the country lying north of the Columbia, between the Cowlitz and Cape Disappointment, is generally rough and rugged, with numerous streams of water, and in many places a rich soil: it is extremely well timbered, and is capable, when cleared, of growing grain, and other agricultural produce.

On the 23d (Sunday), it was reported that a vessel was off the Cape, firing guns. This made me extremely anxious to go thither, but as there was much difficulty in accomplishing this, Mr. Birnie proposed a trip to Point Adams, and a visit to the missionaries at Clatsop. This proposal I gladly accepted, and at an early hour the next morning we set out, crossed Young's Bay, landed, and after walking a mile came to the mission, where we had the pleasure of seeing Mr. and Mrs. Frost. Mr. Frost gave us a kind welcome at his new dwelling, which I understood him to say had been built with his own hands. His wife appeared cheerful and happy, and made herself quite agreeable. The house is a frame one, of one story, and contains three rooms: it is situated in a young spruce and pine grove, which is thought to be the most healthy situation here. There are two American settlers, who are building houses here, named respectively Tibbits and Smith; both of them are very respectable men, and good mechanics. This place is not susceptible of improvement, and I understood that it had been chosen for its salubrity. I understood that Mr. Frost was engaged with the Rev. Mr. Koen in cultivating a tract of land, about four miles distant. The latter resides upon the tract, and is occupied in raising a large crop and superintending cattle. There appeared to me to be little opportunity for exercising their ministerial calling, though I understood afterwards that at particular seasons a number of Indians collected to hear them.

After spending some time with them, Mr. Birnie, Mr. Frost, and myself set off for Point Adams and Clatsop village. I think, in all my life, I had never met with so many snakes as I saw during this short walk: they were on the beach, where they were apparently feeding at low water. We looked from the sand-hills on Point Adams for vessels, but none were in sight; and then we walked on to the village. It consisted of a few rough lodges, constructed of boards or rather hewn planks, of large size; the interior resembled a miserably-constructed ship's cabin, with bunks, &c.; the only light was admitted from above, near the ridge and gable-end. Pieces of salmon and venison were hanging up in the smoke of their fire. Numbers of the Indians are always to be seen lounging about, and others gambling. On the bunk-planks are painted various uncouth figures of men, and in one was seen hanging the head of an elk, which it was understood they make use of occasionally as a decoy in the chase, for the purpose of taking their game more easily. Around the whole is a palisade, made of thick planks and joists, about fifteen feet in length, set with one end in the ground, to protect them from attack.

The Indians of this region even now make war upon each other on the most trivial occasion, and for the most part to satisfy individual revenge. The Hudson Bay Company's officers possess and exert a most salutary influence, endeavouring to preserve peace at all hazards. It is now quite safe for a white man to pass in any direction through the part of the country where their posts are, and in case of accident to any white settler, a war-party is at once organized, and the offender is hunted up. About a year previous to our arrival, an Indian was executed at Astoria for the murder of a white man, whom he had found asleep, killed, and stolen his property.

He was taken, tried, found guilty, and executed in the presence of most of the settlers. The culprit was a slave, and it was some time before the chief to whom he belonged would give him up. It was proved on the trial, and through the confession of the slave, that he had stolen the property and committed the murder by order of his master, who took all the stolen goods. The master made his escape when he found his agency had been discovered; and I understood that he kept himself aloof from all the Company's posts, until the matter should be forgotten.

As the tide had risen so much as to render it difficult to walk along the beach, we returned to Mr. Frost's in a crazy canoe, and were very near being upset. Had this accident happened, it must have proved fatal to some of us in the strong tide that was running; we therefore felt much relieved to get again to the beach. After partaking of Mrs. Frost's good cheer, we returned to Astoria, much pleased with our day's jaunt.

On the Clatsop beach, we saw a great number of dead fish. Mr. Birnie informed me, that they were thrown up in great numbers during the autumn; and were supposed to be killed by a kind of worm, generated in their stomachs.

On the 28th, the Company's barques Cowlitz and Columbia were in sight: the former bound for Oahu, the latter for Sitka. By the former, we sent letters for home.

Our Indians having recovered from their fatigue, I resolved to proceed with Mr. Drayton to Vancouver, leaving Mr. Waldron to await the arrival of the Peacock, and to recruit from his sickness. We embarked at noon, having Mr. Birnie with us, to join the vessels above. We soon found ourselves in much more sea and wind than our canoe could bear; and, by Plumondon's advice, took in our sail, and made for Tongue Point as quickly as we could. He deemed it much too dangerous to venture across the open bay in the small canoe we had bought in lieu of the one we had come down in.

We landed at Tongue Point and encamped; but as we had much time yet before dark, we went to the top of the Point, which is said to be the position best adapted for a fortification to defend the channel up the river. Tongue Point is a high bluff of trap rock, covered with trees of large dimensions: the top has been cleared and taken possession of by Mr. Birnie, who has erected a log hut and planted a patch of potatoes. The hut was inhabited for a year, by a Sandwich Islander and his wife. It is rather a rough spot for cultivation, but the end of occupancy was answered by it. There is a small portage on Tongue Point, which canoes often use in bad weather, to avoid accidents that might occur in the rough seas that make in the channel that passes round it.

Mr. Drayton picked up a considerable number of shells.

Late in the afternoon, Mr. Birnie left us, and joined the barque Columbia. Mr. Drayton and myself made ourselves comfortable, notwithstanding it rained and blew hard. The next morning we set out for Vancouver; but our progress was slow, and we were obliged to take advantage of all the eddies. By the afternoon, however, we had reached Oak Point, and stopped at a collection of lodges in order to obtain some salmon.

Near Puget Island, we encountered a party fishing, and saw them take a large salmon; but they demanded such an exorbitant price for it (equal to one dollar and twenty-five cents), that we refused to give it; considering it bad policy to indulge their cupidity.* Plumondon said, that they had no desire to sell the fish, as they had a superstitious objection to dispose of the first fish to strangers: even if induced to sell it, they will always take the heart out and roast it for themselves; for they believe, that if the heart of the fish were eaten by a stranger at the first of the season, their success would be destroyed, and they would catch no more fish. To prevent this, they consider it requisite that a certain number of "sleeps" or days should pass before any are sold. The price of a large salmon is about ten cents in trade.

Here we unexpectedly found the medicine-man, employed in going through his incantations and preparing his medicines. One of our young Indians, who was a chief, landed, without knowing what was going on, for the purpose of making the inquiries we desired. He was met with direful looks, and in great wrath ordered by all the men to leave the place: they seemed at the instant, desirous to wreak vengeance upon him for his intrusion. His retreat was precipitate, as he well knew the consequences of delay and the danger of disturbing the medicine-man during his incantations. If the patient should die, they invariably impute the fatal result to the disturbance, and ascribe the death to the intruder. This invariably leads to his being put to death, by the nearest of kin, who deems this act a duty. Plumondon said, that he was not at all surprised at the fear the young chief showed; for he had himself been placed in similar circumstances a short time before, when his father had died. The medicine-man imputed his death to a chief of the Klackatacks, whom this young chief shortly afterwards killed. Occurrences of this description have led to long and bloody wars among the tribes; and the only way of settling and overcoming this difficulty, is by paying a valuation for the deceased. I understood that from five to twenty blankets, according to rank, and the estimation in which the deceased was held, is considered a proper indemnity.

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* On mentioning the subject at Vancouver, I was told I ought to have taken the fish and paid the Indian what I thought proper.

We encamped a few miles above Oak Point, on the prairie, in a grove of trees. The next morning was beautiful, and the birds were singing blithely around us. Our Indians were as merry as the birds. There was an entire absence of game birds, though a great number of singing ones were seen.

We passed during the day Coffin Rock, which is about seven miles above the Mount Coffin before spoken of. It is of small dimensions, and has been the burial-place of chiefs, who are usually interred in canoes, which are provided with all the necessary appendages for their journey to the land of spirits and their hunting-grounds. The mode of disposing of their dead seems to have been different on the south side of the Columbia. On the Cowlitz we observed many canoes near the bank of the river, supported between four trees: these contain the remains of their dead, are painted in a variety of figures, and have gifts from their friends hung around them. I was told that this is not only done at the time of their burial, but frequently for several months after. All the sepulchres of this description that I saw were going to decay.

All the Indians have a great regard for these places of interment, and consider them as being sacred.

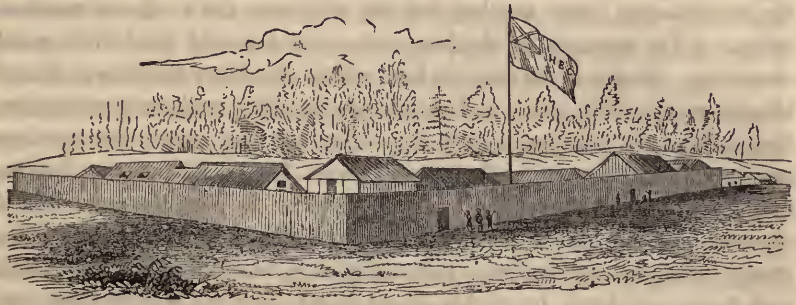
Shortly after we passed this point, we met a canoe, and one of our Indians was informed that his child was dead. We made a stop soon after, and I observed that the man scarified himself on the leg in several places, until he bled profusely; this done, he lighted his pipe, and seemed to smoke for consolation. He kept himself for that evening apart from the rest, who continued their merriment, and paid no regard whatever to his movements. To judge from his expression of countenance, I should say he was much grieved; but the next day he was as merry as any of the others. After being a week with these natives, I never saw any flagging in their spirits, for with this exception, all were gay and lively at their work. They are not strong, and have an effeminate look, of which their manners also partake.

The scenery before reaching the lower mouth of the Willamette, is diversified with high and low land, which, together with three lofty snowy peaks, afford many fine views. The country begins to open here, and is much better adapted to agriculture than that lower down.

At Warrior Point we entered the Callepuya, for the purpose of avoiding the current of the river. At this time of the year this branch forms an extensive range of lakes, which reaches to within a mile of Vancouver. The river was now high enough to make it convenient for us to take this route. Shortly after entering the Callepuya, we were obliged to encamp, which we did in rather an inauspicious-looking place; but the bank had not yet absorbed sufficient moisture to make it even wet or damp. Mr. Drayton having shot a pigeon, we had something for supper, otherwise we should have gone without, for we thought when we left Astoria, we should reach Vancouver many hours before we actually did. On the approach to Vancouver, we passed one of the dairies, and some rich meadow-land, on which were grazing herds of fine cattle. We afterwards saw some flocks of sheep of the best English and Spanish breeds.

It becoming necessary to make a short portage within a mile of Vancouver, we concluded to walk thither by the road. In this march we first entered a wood of large pines, which had an undergrowth of various flowering shrubs. The old stumps in the road were overgrown with the red honeysuckle, in full blossom. Lupines and other flowers grow even in the roadway.

We came in at the back part of the village, which consists of about fifty comfortable log houses, placed in regular order on each side of the road. They are inhabited by the Company's servants, and were swarming with children, whites, half-breeds, and pure Indians. The fort stands at some distance beyond the village, and to the eye appears like an upright wall of pickets, twenty-five feet high: this encloses the houses, shops, and magazines of the Company. The enclosure contains about four acres, which appear to be under full cultivation. Beyond the fort, large granaries were to be seen. At one end is Dr. M'Laughlin's house, built after the model of the French Canadian, of one story, weather-boarded and painted white. It has a piazza and small flower-beds, with grape and other vines, in front. Between the steps are two old cannons on sea-carriages, with a few shot, to speak defiance to the natives, who no doubt look upon them as very formidable weapons of destruction. I mention these, as they are the only warlike instruments to my knowledge that are within the pickets of Vancouver, which differs from all the other forts in having no bastions, galleries, or loop-holes. Near by are the rooms for the clerks and visiters, with the blacksmiths' and coopers' shops. In the centre stands the Roman Catholic chapel, and near by the flag-staff; beyond these again are the stores, magazines of powder, warerooms, and offices.



FORT VANCOUVER.

We went immediately to Dr. M'Laughlin s quarters. He was not within, but we were kindly invited to enter, with the assurance that he would soon return. Only a few minutes elapsed before Dr. M'Laughlin came galloping up, having understood that we had preceded him. He is a tall fine-looking person, of a very robust frame, with a frank manly open countenance, and a florid complexion; his hair is perfectly white. He gave us that kind reception we had been led to expect from his well-known hospitality. He is of Scotch parentage, but by birth, a Canadian, enthusiastic in disposition, possessing great energy of character, and extremely well suited for the situation he occupies, which requires great talent and industry. He at once ordered dinner for us, and we soon felt ourselves at home, having comfortable rooms assigned us, and being treated as part of the establishment.

The situation of Vancouver is favourable for agricultural purposes, and it may be said to be the head of navigation for sea-going vessels. A vessel of fourteen feet draft of water, may reach it in the lowest state of the river. The Columbia at this point makes a considerable angle, and is divided by two islands, which extend upwards about three miles, to where the upper branch of the Willamette joins it.

The shores of these islands are covered with trees, consisting of ash, poplars, pines, and oaks, while the centre is generally prairie, and lower than the banks: they are principally composed of sand. During the rise of the river in May and June, the islands are covered with water, that filters through the banks that are not overflowed. This influx renders them unfit for grain crops, as the coldness of the water invariably destroys every cultivated plant it touches.

The Company's establishment at Vancouver is upon an extensive scale, and is worthy of the vast interest of which it is the centre. The residents mess at several tables: one for the chief factor and his clerks; one for their wives (it being against the regulations of the Company for their officers and wives to take their meals together); another for the missionaries; and another for the sick and the Catholic missionaries. All is arranged in the best order, and I should think with great economy. Every thing may be had within the fort: they have an extensive apothecary shop, a bakery, blacksmiths' and coopers' shops, trade-offices for buying, others for selling, others again for keeping accounts and transacting business; shops for retail, where English manufactured articles may be purchased at as low a price, if not cheaper, than in the United States, consisting of cotton and woollen goods, ready-made clothing, ship-chandlery, earthen and iron ware, and fancy articles; in short, every thing, and of every kind and description, including all sorts of groceries, at an advance of eighty per cent. on the London prime cost. This is the established price at Vancouver, but at the other posts it is one hundred per cent., to cover the extra expenses of transportation. All these articles are of good quality, and suitable for the servants, settlers and visiters. Of the quantity on hand, some idea may be formed from the fact that all the posts west of the Rocky Mountains get their annual supplies from this depôt.

Vancouver is the head-quarters of the Northwest or Columbian Department, which also includes New Caledonia; all the returns of furs are received here, and hither all accounts are transmitted for settlement. These operations occasion a large mass of business to be transacted at this establishment. Mr. Douglass, a chief factor, and the associate of Dr. M'Laughlin, assists in this department, and takes sole charge in his absence.

Dr. M'Laughlin showed us our rooms, and told us that the bell was the signal for meals.

Towards sunset, tea-time arrived, and we obeyed the summons of the bell, when we were introduced to several of the gentlemen of the establishment: we met in a large hall, with a long table spread with abundance of good fare. Dr. M'Laughlin took the head of the table, with myself on his right, Messrs. Douglass and Drayton on his left, and the others apparently according to their rank. I mention this, as every one appears to have a relative rank, privilege, and station assigned him, and military etiquette prevails. The meal lasts no longer than is necessary to satisfy hunger. With the officers who are clerks, business is the sole object of their life, and one is entirely at a loss here who has nothing to do. Fortunately I found myself much engaged, and therefore it suited me. The agreeable company of Dr. M'Laughlin and Mr. Douglass made the time at meals pass delightfully. Both of these gentlemen were kind enough to give up a large portion of their time to us, and I felt occasionally that we must be trespassing on their business hours. After meals, it is the custom to introduce pipes and tobacco. It was said that this practice was getting into disuse, but I should have concluded from what I saw that it was at its height.

Canadian French is generally spoken to the servants: even those who come out from England after a while adopt it, and it is not a little amusing to hear the words they use, and the manner in which they pronounce them.

The routine of a day at Vancouver is perhaps the same throughout the year. At early dawn the bell is rung for the working parties, who soon after go to work: the sound of the hammers, click of the anvils, the rumbling of the carts, with tinkling of bells, render it difficult to sleep after this hour. The bell rings again at eight, for breakfast; at nine they resume their work, which continues till one; then an hour is allowed for dinner, after which they work till six, when the labours of the day close. At five o'clock on Saturday afternoon the work is stopped, when the servants receive their weekly rations.

Vancouver is a large manufacturing, agricultural, and commercial depôt, and there are few if any idlers, except the sick. Everybody seems to be in a hurry, whilst there appears to be no obvious reason for it.

Without making any inquiries, I heard frequent complaints made of both the quantity and quality of the food issued by the Company to its servants. I could not avoid perceiving that these complaints were well founded, if this allowance were compared with what we deem a sufficient ration in the United States for a labouring man. Many of the servants complained that they had to spend a great part of the money they receive to buy food: this is £17 per annum, out of which they have to furnish themselves with clothes. They are engaged for five years, and after their time has expired the Company are obliged to send them back to England or Canada, if they desire it. Generally, however, when their time expires they find themselves in debt, and are obliged to serve an extra time to pay it: and not unfrequently, at the expiration of their engagement, they have become attached, or married, to some Indian woman or half-breed, and have children, on which account they find themselves unable to leave, and continue attached to the Company's service, and in all respects under the same engagement as before. If they desire to remain and cultivate land, they are assigned a certain portion, but are still dependent on the Company for many of the necessaries of life, clothing, &c. This causes them to become a sort of vassal, and compels them to execute the will of the Company. In this way, however, order and decorum are preserved, together with steady habits, for few can in any way long withstand this silent influence. The consequence is, that few communities are to be found more well-behaved and orderly than that which is formed of the persons who have retired from the Company's service. That this power, exercised by the officers of the Company, is much complained of, I am aware, but I am satisfied that as far as the morals of the settlers and servants are concerned, it is used for good purposes. For instance, the use of spirits is almost entirely done away with. Dr. M'Laughlin has acted in a highly praiseworthy manner in this particular. Large quantities of spirituous liquors are now stored in the magazines at Vancouver, which the Company have refused to make an article of trade, and none is now used by them in the territory for that purpose. They have found this rule highly beneficial to their business in several respects: more furs are taken, in consequence of those who are engaged having fewer inducements to err; the Indians are found to be less quarrelsome, and pursue the chase more constantly; and the settlers, as far as I could hear, have been uniformly prosperous.

In order to show the course of the Company upon this subject, I will mention one circumstance. The brig Thomas H. Perkins arrived here with a large quantity of rum on board, with other goods. Dr. M'Laughlin, on hearing of this, made overtures immediately for the purchase of the whole cargo, in order to get possession of the whiskey or rum, and succeeded. The Doctor mentioned to me that the liquor was now in store, and would not be sold in the country, and added, that the only object he had in buying the cargo was to prevent the use of the rum, and to sustain the temperance cause.

The settlers are also deterred from crimes, as the Company have the power of sending them to Canada for trial, which is done with little cost, by means of the annual expresses which carry their accounts and books.

The interior of the houses in the fort are unpretending. They are simply finished with pine board panels, without any paint: bunks are built for bedsteads; but the whole, though plain, is as comfortable as could be desired.

I was introduced to several of the missionaries: Mr. and Mrs. Smith, of the American Board of Missions; Mr. and Mrs. Griffith, and Mr. and Mrs. Clarke, of the Self-supporting Mission; Mr. Waller of the Methodist, and two others. They, for the most part, make Vancouver their home, where they are kindly received and well entertained at no expense to themselves. The liberality and freedom from sectarian principles of Dr. M'Laughlin may be estimated from his being thus hospitable to missionaries of so many Protestant denominations, although he is a professed Catholic, and has a priest of the same faith officiating daily at the chapel. Religious toleration is allowed in its fullest extent. The dining-hall is given up on Sunday to the use of the ritual of the Anglican Church, and Mr. Douglass or a missionary reads the service.

Mr. and Mrs. Smith had been in the country two years, and were about leaving it for the Hawaiian Islands, in consequence of the ill health of Mrs. Smith. Mr. Smith informed me that he had been settled on the Kooskooskee, at a station called Kamia. There were no Indians near that station, and consequently little duty for a missionary to perform. All the above-named missions, except the Methodist, came across the Rocky Mountains: they represented the pass through them as by no means difficult, and that they had entertained no apprehension of the hostile Indians. They had accompanied a party of fur-traders from St. Louis, and gave a deplorable account of the dissipation and morals of the party. Messrs. Griffith and Clarke were entirely disappointed in finding self-support here, and had it not been for the kindness of Dr. M'Laughlin, who took them in, they would have suffered much. They were advised to settle themselves on the Faulitz Plains, where I have understood they have since taken land, and succeeded in acquiring quite respectable farms.

There are two large entrance gates to the "fort" for wagons and carts, and one in the rear leading to the granaries and the garden: the latter is quite extensive, occupying four or five acres, and contains all kinds of vegetables and many kinds of fruit, with which the tables are abundantly supplied by the gardener, "Billy Bruce." After William Bruce's first term of service had expired, he was desirous of returning to England, and was accordingly sent. This happened during the visit of Dr. M'Laughlin to England. One day an accidental meeting took place in a crowded street of London, where he begged Dr. M'Laughlin to send him back to Vancouver. William Bruce was accordingly taken again into employ, and sent back in the next ship. In the mean time, however, he was sent to Chiswick, the seat of the Duke of Devonshire, to get a little more knowledge of his duties, and remained till the vessel sailed; but no place was like Vancouver to him, and all his success here continues to be compared with Chiswick, which he endeavours to surpass: this is alike creditable to both.

Besides the storehouses there is also a granary, which is a frame building of two stories, and the only one, the rest being built of logs.

In addition to these, there are extensive kitchens and apartments for the half-breed and Indian children that the Company have taken to bring up and educate. Of these there are now twenty-three boys and fifteen girls, who claim the particular attention of Dr. M'Laughlin and Mrs. Douglass. A teacher is employed for the boys, who superintends them not only in school, but in the field and garden. During my stay an examination took place, and although the pupils did not prove very expert at their reading and writing, yet we had sufficient evidence that they had made some improvement, and were in a fair way to acquire the rudiments. Some allowance was to be made for the boys, who had been constantly in the field under their teacher for a few months past. Dr. M'Laughlin estimated the labour of four of these small boys as equal to that of a man. It was an interesting sight to see these poor little cast-away fellows, of all shades of colour, from the pure Indian to that of the white, thus snatched away from the vices and idleness of the savage. They all speak both English and French; they are also instructed in religious exercises, in which I thought they appeared more proficient than in their other studies. These they are instructed in on Sunday, on which day they attend divine worship twice. They were a ruddy set of boys, and when at work had a busy appearance: they had planted and raised six hundred bushels of potatoes; and from what Dr. M'Laughlin said to me, fully maintain themselves. The girls are equally well cared for, and are taught by a female, with whom they live and work.

An opinion has gone abroad, I do not know how, that at this post there is a total disregard of morality and religion, and that vice predominates. As far as my observations went, I feel myself obliged to state, that every thing seems to prove the contrary, and to bear testimony that the officers of the Company are exerting themselves to check vice, and encourage morality and religion, in a very marked manner; and that I saw no instance in which vice was tolerated in any degree. I have, indeed, reason to believe, from the discipline and the example of the superiors, that the whole establishment is a pattern of good order and correct deportment.

This remark not only extends to this establishment, but as far as our opportunities went (and all but two of their posts were visited), the same good order prevails throughout the country. Wherever the operations of the Company extend, they have opened the way to future emigration, provided the means necessary for the success of emigrants, and rendered its peaceful occupation an easy and cheap task.

The mode in which their trade is carried on, will give some idea of the system pursued by the Company. All the imported goods are divided into three classes, viz.: articles of gratuity, those of trade, and those intended to pay for small services, labour, and provisions. The first consists of knives and tobacco; the second, of blankets, guns, cloth, powder, and shot; the third, of shirts, handkerchiefs, ribands, beads, &c. These articles are bartered at seemingly great profits, and many persons imagine that large gain must be the result from the Indian trade; but this is seldom the case. The Indians and settlers understand well the worth of each article, and were not inclined to give for it more than its real value, besides getting a present or "potlatch" to boot. The Company are obliged to make advances to all their trappers, if they wish to be sure of their services; and from such a reckless set, there is little certainty of getting returns, even if the trapper has it in his power. In fact, he will not return with his season's acquisitions, unless he is constrained to pursue the same course of life for another year, when he requires a new advance. In order to avoid losses by the departure of their men, the parties, some thirty or forty in number, are placed under an officer who has charge of the whole. These are allowed to take their wives and even families with them; and places, where they are to trap during the season, on some favourable ground, are assigned to them. These parties leave Vancouver in October, and return by May or June. They usually trap on shares, and the portion they are to receive is defined by an agreement; the conditions of which depend very much upon their skill.

All the profits of the Company depend upon economical management, for the quantity of peltry in this section of the country, and indeed it may be said the fur-trade on this side of the mountains, has fallen off fifty per cent. within the last few years. It is indeed reported, that this business at present is hardly worth pursuing.

Mr. Douglass was kind enough to take me into the granary, which contained wheat, flour, barley, and buckwheat. The wheat averaged sixty-three pounds to the bushel; barley yields twenty bushels to the acre; buckwheat, in some seasons, gives a good crop, but it is by no means certain, owing to the early frosts; oats do not thrive well; peas, beans, and potatoes yield abundantly; little or no hay is made, the cattle being able to feed all the year round on the natural hay, which they find very nutritious, and fatten upon it. The grass grows up rapidly in the beginning of summer; and the subsequent heat and drought convert it into hay, in which all the juices are preserved. Besides this, they have on the prairies along the river, two luxuriant growths of grass; the first in the spring, and the second soon after the overflowing of the river subsides, which is generally in July and August. The last crop lasts the remainder of the season. Neither do they require shelter, although they are penned in at night. The pens are movable; and the use of them is not only for security against the wolves, but to manure the ground.

The farm at Vancouver is about nine miles square. On this they have two dairies, and milk upwards of one hundred cows. There are also two other dairies, situated on Wapauto Island on the Willamette, where they have one hundred and fifty cows, whose milk is employed, under the direction of imported dairymen, in making butter and cheese for the Russian settlements.

They have likewise a grist and saw mill, both well constructed, about six miles above Vancouver, on the Columbia river.

One afternoon we rode with Mr. Douglass to visit the dairy-farm, which lies to the west of Vancover, on the Callepuya. This was one of the most beautiful rides I had yet taken, through fine prairies, adorned with large oaks, ash, and pines. The large herds of cattle feeding and reposing under the trees, gave an air of civilization to the scene, that is the only thing wanting in the other parts of the territory. The water was quite high; and many of the little knolls were surrounded by it, which had the appearance of small islets breaking the wide expanse of overflowing water.

This dairy is removed every year, which is found advantageous to the ground, and affords the cattle better pasturage. The stock on the Vancouver farm is about three thousand head of cattle, two thousand five hundred sheep, and about three hundred brood mares.

At the dairy, we were regaled with most excellent milk; and found the whole establishment well managed by a Canadian and his wife. They churn in barrel-machines, of which there are several. All the cattle look extremely well, and are rapidly increasing in numbers. The cows give milk at the age of eighteen months. Those of the California breed give a very small quantity of milk; but when crossed with those from the United States and England, do very well. I saw two or three very fine bulls, that had been imported from England. The sheep have lambs twice a year: those of the California breed yield a very inferior kind of wool, which is inclined to be hairy near the hide, and is much matted. This breed has been crossed with the Leicester, Bakewell, and other breeds, which has much improved it. The fleeces of the mixed breed are very heavy, weighing generally eight pounds, and some as much as twelve. Merinos have been tried, but they are not found to thrive.

The Californian horses are not equal to those raised in Oregon: those bred near Wallawalla are in the most repute.

In one of our rides we visited the site of the first fort at Vancouver: it is less than a mile from the present position, and is just on the brow of the upper prairie. The view from this place is truly beautiful: the noble river can be traced in all its windings, for a long distance through the cultivated prairie, with its groves and clumps of trees; beyond, the eye sweeps over an interminable forest, melting into a blue haze, from which Mount Hood, capped with its eternal snows, rises in great beauty. The tints of purple which appear in the atmosphere, are, so far as I am aware, peculiar to this country. This site was abandoned, in consequence of the difficulty of obtaining water, and its distance from the river, which compelled them to transport every article up a high and rugged road. The latter difficulty was encountered in the first location on the upper prairie, because it was said that the lower one was occasionally flooded; but although this may have happened formerly, it is not found to occur at present.

I also visited the grist-mill, which is situated on a small stream, but owing to the height of the river, which threw a quantity of backwater on the wheel, it was not in action. The mill has one run of stones, and is a well-built edifice. Annexed to it is the house of the miller, who is also the watchmaker of the neighbourhood. The mill is amply sufficient for all the wants of the Company, and of the surrounding country. The saw-mill is two miles beyond the grist-mill. A similar mistake has been made in choosing its position, for the mill is placed so low that for the part of the season when they have most water, they are unable to use it. There are in it several runs of saws, and it is remarkably well built. In few buildings, indeed, can such materials be seen as are here used. The quality of timber cut into boards, is inferior to what we should deem merchantable in the United States, and is little better than our hemlock. The boards are shipped to the Sandwich Islands, and we here found the brig Wave taking in a cargo of lumber. These boards sell at Oahu for eighty dollars per thousand. I could not ascertain their cost here. About twenty men (Canadians and Sandwich Islanders) are employed at the mill.

They have a large smith's shop here, which, besides doing the work of the mill, makes all the axes and hatchets used by the trappers. The iron and steel are imported: the tools are manufactured at a much less price than those imported, and are more to be depended on. A trapper's success, in fact, depends upon his axe; and on this being lost or broken, he necessarily relinquishes his labours, and returns unsuccessful. I was surprised at seeing the celerity with which these axes are made. Fifty of them, it is said, can be manufactured in a day, and twenty-five are accounted an ordinary day's work. They are eagerly sought after by the Indians, who are very particular that the axe should have a certain shape, somewhat like a tomahawk.

From the mill we crossed over to one of the sheep-walks on the high prairie. The soil on this is a light sandy loam, which yields a plentiful crop of columbine, lupine, and cammass-flowers. Throughout these upper prairies, in places, are seen growing pines of gigantic dimensions and towering height, with their branches drooping to the ground, with clumps of oaks, elders, and maple. These prairies have such an air of being artificially kept in order, that they never cease to create surprise, and it is difficult to believe that the hand of taste and refinement has not been at work upon them.

On our way back to Vancouver, we met the droves of horses and cattle that they were driving to the upper prairie, on account of the rise of the river, and the consequent flooding of the low grounds. This was quite an interesting sight. A certain number of brood mares are assigned to each horse; and the latter, it is said, is ever mindful of his troop, and prevents them from straying. An old Indian is employed to watch the horses, who keeps them constant company, and is quite familiar with every individual of his charge. We reached the fort just at sunset, after a ride of twenty miles. It was such a sunset as reminded me of home: the air was mild, and a pleasant breeze prevailed from the west; Mount Hood showed itself in all its glory, rising out of the purple haze with which the landscape was shrouded.

On this night, (29th May,) the waters of the Columbia took a rise of eighteen inches in ten hours, and apprehensions were entertained that the crops on the lower prairie would be destroyed. The usual time for the highest rise of the river is in the middle of June, but the heat of the spring and summer is supposed to have caused its rise sooner this year.

The crop of wheat of the last year had been partially destroyed, causing a loss of a thousand bushels. Although the Columbia does not overflow its banks any where except in the lower prairie, there are quicksands in these, through which the water, before it reaches the height of the embankment, percolates, and rises on the low parts of the prairie. In consequence of the low temperature of the water, as I have before observed, it chills and destroys the grain.

I witnessed the Columbia at its greatest and least heights, and no idea can be formed of it unless seen at both these epochs. The flood is a very grand sight from the banks of the river at Vancouver, as it passes swiftly by, bearing along the gigantic forest trees, whose immense trunks appear as mere chips. They frequently lodge for a time, in which case others are speedily caught by them, which obstructing the flow of the water, form rapids, until by a sudden rush the whole is borne off to the ocean, and in time lodged by the currents on some remote and savage island, to supply the natives with canoes. I also witnessed the undermining of large trees on the banks, and occasional strips of soil: thus does the river yearly make inroads on its banks, and changes in its channels.

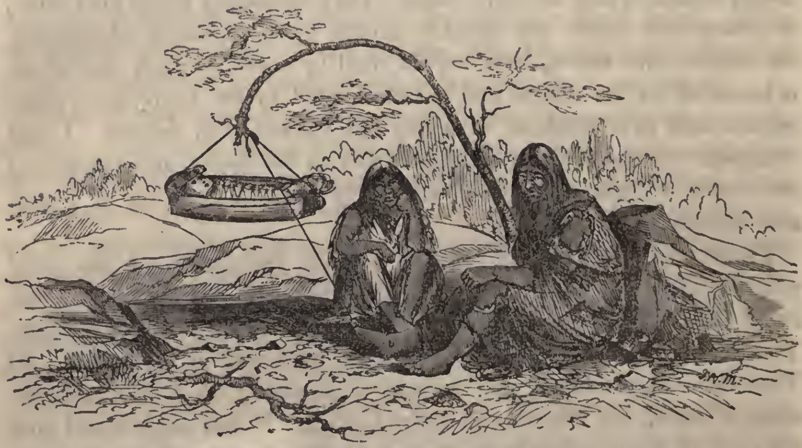
From the circumstance of this annual inundation of the river prairies, they will always be unfit for husbandry, yet they are admirably adapted for grazing, except during the periods of high water. There is no precaution that can prevent the inroad of the water. At Vancouver they were at the expense of throwing up a long embankment of earth, but without the desired effect. It has been found that the crop of grain suffers in proportion to the quantity of the stalk immersed: unless the wheat is completely covered, a partial harvest may be expected.

The temperature of the waters of the Columbia, during the months of May and June, was 42°, while in September it had increased to 68°.

The waters of the Columbia have no fertilizing qualities, which is remarkable when the extent of its course is considered: on the contrary, it is said, from experience, to deteriorate and exhaust the soil. It is, when taken up, quite clear, although it has a turbid look as it flows by. Quantities of fine sand are however borne along, and being deposited in the eddies, rapidly form banks, which alter the channel in places to a great degree.

During my stay at Vancouver, I had a visit from three of a party of eight young Americans, who were desirous of leaving the country, but could not accomplish it in any other way but by building a vessel. They were not dissatisfied with the territory, but they would not settle themselves down in it, because there were no young women to marry, except squaws or half-breeds. They informed me that they were then engaged in building a vessel on the Oak Islands in the Willamette; where I promised to visit them on my way up the river.

I found them in difficulty with Dr. M'Laughlin, who had refused to furnish them with any more supplies, in consequence, as he stated, of their having obtained those already given them under false pretences.



INDIAN MODE OF ROCKING CRADLE.

# CHAPTER X.

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# CHAPTER X.

## WILLAMETTE VALLEY.

### 1841.

On the 3d of June, we had made arrangements for leaving Vancouver, and proceeding up the Willamette; but the weather was so stormy, that we deferred our departure until the following day.

Dr. M'Laughlin had kindly furnished us with a large boat, and, although we had provided ourselves with provisions, we found in her a large basket filled with every thing that travellers could need, or kindness suggest.

The barge in which we embarked was one that usually carried freight; but it had been fitted up with seats for our use, so that we found ourselves extremely comfortable, and our jaunt was much more pleasant than if we had been confined to a small canoe. These flat-bottom boats are capable of carrying three hundred bushels of wheat, and have but a small draft of water; when well manned, they are as fast as the canoes, and are exceedingly well adapted to the navigation of the river: they are also provided with large tarpawlings to protect their cargo from the weather.

From Vancouver we floated down with the current to the upper mouth of the Willamette, which we entered, and before night passed the encampment of the Rev. Jason Lee, principal of the Methodist Mission in Oregon, who was on his way to Clatsop, at the mouth of the Columbia. We stopped with him for an hour. He was accompanied by his wife, Mr. and Mrs. Whitwell, and two or three children. Their encampment was close to the river, and consisted of two small tents. Mr. Lee gave us a warm invitation to visit the settlement on the Willamette, thus forestalling our intentions to do so.

The musquitoes and sand-flies were so annoying, that we were glad to seek for higher ground to encamp on, for the purpose of escaping them.

The Willamette river is generally about one-fourth of a mile wide. For the distance of four miles from its entrance into the Columbia its banks are low, and during the rise of the latter are overflowed, its waters being backed into the Willamette. There is little current to contend with in this river during this season. After passing this low ground, the banks become high and precipitous, and are in only a few places susceptible of cultivation.

We encamped on the island occupied by the young Americans, of whom I spoke in the preceding chapter, and close to the place where they were building their vessel. The group of which it is one, is called the Oak Islands.

On landing, we were introduced to them all. They had reached the Oregon country by crossing the Rocky Mountains, a year before, and worked on the Willamette, where they first proposed to settle themselves; but they found that that was out of the question, as there was little or no prospect of their being contented, and they were now bent upon leaving the country at all hazards. Every one with whom I spoke gave them a good character, except one, and I found that, shortly after my visit, he had been turned out of the partnership.

The vessel they were building was a small schooner. One of their number having served a short time in a ship-yard in the United States, the rest were employed as his assistants, cutting timber and preparing the plank, which they procured from the cedar on the banks of the river.

I explained to them the cause of Dr. M'Laughlin's refusal to assist them, which they denied most positively. I then told them it was proper for them to deny having authorized any trick or deception, on doing which I was sure they would receive any assistance that lay in the power of Dr. M'Laughlin. This they subsequently did, and I was informed that they then received all the aid he had it in his power to give.

I tried to dissuade these young men from making their voyage; for I found, on conversing with them, that not one of them knew any thing about the sailing of a vessel or navigation. I therefore knew how great dangers they would experience on the voyage even to California, whither they intended to go, with the intention of taking sea-otter by the way on the coast of Oregon. After their arrival at San Francisco it was their plan to sell their vessel and cargo, if they were fortunate enough to obtain any, or if not, to go down the coast further, when they would cross over the country, and return by the way of Mexico or Texas.

It gave me much pleasure to see the buoyancy of spirit, so truly characteristic of our countrymen, with which they carried on their plan.

Before I left the Columbia in September, they asked me for a sea-letter for their protection; at the same time informing me that their vessel was launched, met their expectations, and was called the "Star of Oregon."

The grove of oak on this island was beautiful, forming an extensive wood, with no undergrowth. The species that grows here is a white-oak, of very close grain. Its specific gravity is much greater than water; and it is used for the purposes to which we apply both oak and hickory. It makes excellent hoops for casks, and is the only timber of this region that is considered durable.

The next morning, I left the boat-builders, after assuring them that they should have all the assistance I could give them in their outfit.

After we had embarked, we were told by our guide, Plumondon, that he had with him saddles and bridles, and orders for horses, &c., in order that we might meet with no delay or inconvenience in our trip up the Willamette. I felt these kind attentions and the manner they were bestowed; and it gives me great pleasure to acknowledge how much we were benefited by them.

Early on the morning of the 5th, we set out for the falls of the Willamette. As they are approached, the river becomes much narrower; and the banks, which are of trap rock, more precipitous. This river is navigable for small vessels, even at its lowest stage, as high as the mouth of the Klackamus, three miles below its falls. In the low state of the river, there is a rapid at the Klackamus.

We reached the falls about noon, where we found the missionary station under the charge of the Rev. Mr. Waller. The Hudson Bay Company have a trading-post here, and are packing fish, which the Indians catch in great quantities. This is said to be one of the best salmon-fisheries on the river.

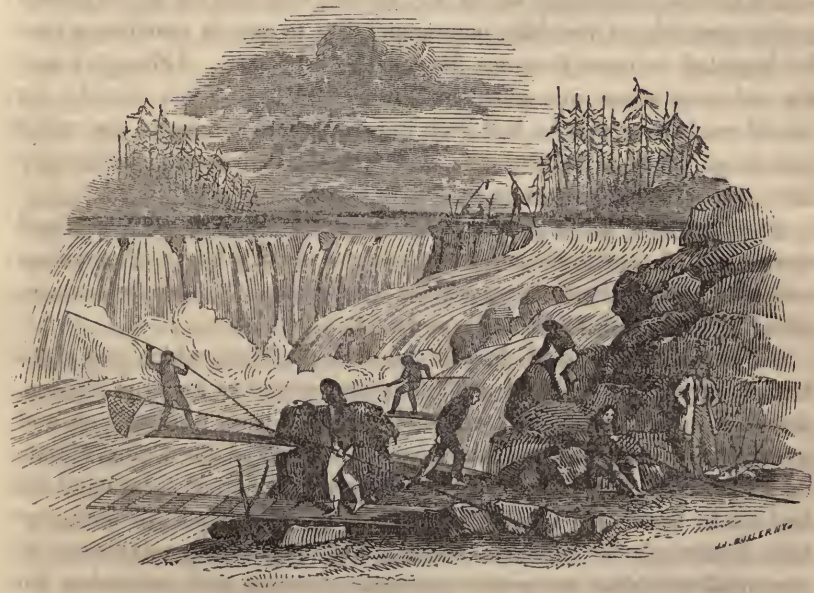
There was a petty dispute between Mr. Waller and the Company, and he complained of them. It seems that the Company refuse to buy any beaver-skins, except from the hunters and trappers; and he accuses them of monopoly in consequence. The Company, on the other hand, say that they have no idea of selling goods out of their own stores, for the purpose of enabling others to enter into competition with them; and that they will spare no expense to keep the trade, as long as they can, in their own hands. This is certainly not unfair. I cannot help feeling it is quite unsuited to the life of a missionary, to be entering into trade of any kind. To embark in traffic must, I think, tend to destroy the usefulness of a missionary, or divert his attention from the great cause in which he is engaged. I am very far from attaching any blame on this account to the missionaries, whose avowed object is to teach the arts of civilization, as well as the Word of God, and I have no doubt that they are doing all in their power to promote the latter object; but I am disposed to think, that any complaints against the Hudson Bay Company for endeavouring to keep the trade in their own hands, comes with an ill grace from the members of a mission who are daily receiving the kindest attentions and hospitality from its officers.

Mr. Waller and his wife gave us a kind welcome, and insisted upon our taking dinner with them. As they have no servants, Mrs. Waller prepared the dinner, while Mr. Waller took care of the out-door business. Though the house was built of rough materials, it was very evident that neatness and order prevailed. Her management of the home-made cooking-stove which stood in the room, claimed my admiration. At the same time she made herself quite agreeable; and although she had many, very many things to contend with, appeared quite satisfied with her lot and condition.

After we had partaken of our dinner, consisting of salmon and tea, with bread and butter, Mr. Waller took us to see the falls. On our way thither, he pointed out a log house that had been built by the agent of Mr. Slacum, in order to secure the right of site or mill-privileges. The Hudson Bay Company have gone to considerable expense in blasting the rock for a mill-race for the same purpose; but from appearances, this work has remained untouched for several years.

The falls of Willamette are about twenty feet in height, and probably offer the best mill-sites of any place in the neighbouring country. Being at the head of navigation for sea-vessels, and near the great wheat-growing valley of the Willamette, it must be a place of great resort. A Mr. Moore, from the Western States, whom I saw on the Willamette, informed me that he had taken possession of the west side of the falls, under a purchase from an old Indian chief. Whether such titles will be recognised by the government, is already a matter of speculation in the country; and there is much talk of pre-emption rights, &c.

At the time of our visit to the falls, the salmon-fishery was at its height, and was to us a novel as well as an amusing scene. The salmon leap the fall; and it would be inconceivable, if not actually witnessed, how they can force themselves up, and after a leap of from ten to twelve feet retain strength enough to stem the force of the water above. About one in ten of those who jumped, would succeed in getting by. They are seen to dart out of the foam beneath and reach about two-thirds of the height, at a single bound: those that thus passed the apex of the running water, succeed; but all that fell short, were thrown back again into the foam. I never saw so many fish collected together before; and the Indians are constantly employed in taking them. They rig out two stout poles, long enough to project over the foaming cauldron, and secure their larger ends to the rocks. On the outer end they make a platform for the fisherman to stand on, who is perched on it with a pole thirty feet long in hand, to which the net is fastened by a hoop four feet in diameter: the net is made to slide on the hoop, so as to close its mouth when the fish is taken. The mode of using the net is peculiar: they throw it into the foam as far up the stream as they can reach, and it being then quickly carried down, the fish who are running up in a contrary direction, are caught. Sometimes twenty large fish are taken by a single person in an hour; and it is only surprising that twice as many should not be caught.



WILLAMETTE FALLS.

The river at the falls is three hundred and fifty yards wide, and its greatest fall twenty-five feet. When the water is not very high, the rapids begin some distance above the falls. Some of the Indians are in the habit of coming down in canoes to the brink of the falls, where they secure themselves by thrusting down poles in the crevices of the rock. There they take many fish, that have succeeded in passing the lower fall, with a hook fastened to the end of a pole. These are esteemed to be of the best flavour, as they are the strongest and fattest. It is said from these places the fish can be seen very distinctly passing up, and are taken very rapidly; but few Indians are willing or expose themselves to the risk of fishing there. The number of Indians at the Willamette Falls during the fishing season, is about seventy, including all ages and sexes: there are others who visit the falls in canoes for fish, which at times will raise the number to not far from one hundred. Those fish which are unable to get up, remain some time at the falls, very much exhausted, and finally resort to the smaller streams below. Mr. Drayton's sketch of the scene is given in the vignette.

The rocks here change their character within a few miles. Much volcanic scoria, vesicular lava, and pudding-stone, intermingled with blocks of trap, and many crystals of quartz, occur. My attention was called to this particularly by old Mr. Moore, who had set up his claims to the west side of the falls, communicating to me in confidence that he intended to erect furnaces for smelting iron, &c. Although I saw the old man some time afterwards, and told him of his mistake, he would not believe that he had been in error. On the rocks are to be seen large knots of lamprey eels, worming themselves up, which make them look at a little distance as if alive with snakes.

After spending some time at the falls, we returned to the house, and thence passed over to the west side of the river in a boat. Plumondon informed us that all our baggage had been transported over the portage, which is about a third of a mile in length.

On landing, we passed through an Indian village, which was absolutely swarming with fleas; a filthier place cannot be found in Oregon. Before we reached our boat, a heavy shower of rain overtook us, and gave us a good drenching; we, however, embarked for Camp Maude du Sable. We now found our progress very different from what we had made below the falls: the current was strong, and we made but little headway; our boatmen being intent upon taking advantage of the smallest eddies, we were continually crossing and recrossing the river for this purpose. The banks had become much higher and more picturesque. This part of the river is considered dangerous when the water is high, and accidents frequently occur; for this reason, the Indians in passing are still in the habit of making a propitiatory offering of some of their food, such as dried salmon or peas, in order that they may have a safe passage by. Before night we encamped just above the Stony Islands, on a barren point of land, at some height above the river, where we found several mosses in flower, which we had not met with before.

At this season of the year, the river is not high: its rise usually takes place in February and March, when it becomes very much swollen, and with its tributaries does much damage. These floods, however, are of very short duration, for the descent is so rapid that the waters are soon discharged. It was raining quite hard when we passed Camp Maude du Sable, a sandy point just at the opening out of the Willamette Valley, which was one of the points originally occupied when the river was first explored by the whites. About two miles further up the river is Champooing, eighteen miles above the falls, which we reached at about 4 P. M. Here we found a few log houses, one of which belonged to a Mr. Johnson, who gave us a hearty welcome. Mr. Johnson was formerly a trapper in the Hudson Bay Company's service, but has begun to farm here. He invited us to take up our quarters with him, and although they were not very pleasant in appearance, we thought it better to accept the invitation than to pitch our tents on the wet ground in the rain. To reach his dwelling, we passed through water over our shoes. The house had little the appearance of belonging to a white man, but his welcome made amends for many things. We were soon installed in his bedroom, where, in looking round, my eye was arrested by a print of the capture of the frigate Guerriere by the Constitution, which led me to speak concerning it, when I found he had been in that action. This at once made us old friends, for I found him familiar with the character of all our naval men, and I had much pleasure in listening to his anecdotes, and hearing him speak in high terms of many of those officers to whom I feel personally attached. It was delightful to hear his unvarnished account of Commodore Hull's coolness and conduct in the action. Johnson asked many questions about the young officers he had known. I was equally diverted with his own adventures. Finding, after the excitement of war was over, he could not be content to lead a quiet life, he determined to adopt the business of trapping. In this he was engaged until the last few years, when he had settled himself down here, and taken an Indian girl for his wife, by whom he had several children. To the latter he said he was desirous of giving a good education, and for this purpose he had engaged old Mr. Moore, from Illinois, to pass several months with him. Johnson had all the easy and independent character of a trapper; yet I could still perceive that he had hanging about him somewhat of the feeling of discipline that he had acquired in the service. His Indian wife is extremely useful in making every thing, besides taking care of the household concerns, and is rather pretty. Johnson's estimate of her was that she was worth "half a dozen civilized wives." There is little cleanliness, however, about his house, and many of the duties are left to two young male slaves, of Indian blood, but of what tribe I did not learn. Johnson's farm consists of about forty acres under cultivation: his wheat and potatoes were flourishing, and he had a tolerable kitchen-garden. He has some little stock, but complained much of the Oregon tiger, or American panther. These voracious animals are numerous and bold: the night before we arrived, they had entered the pen and killed a calf, regardless of the dogs; and an alarm was given on the night of our stay, when all the guns were in requisition, and noise enough was made in getting ready, to scare away dozens of them.

We were informed that there are plenty of elk, and deer, and that the grizzly bear is also common. The flesh of the latter animal is very much esteemed. Wild ducks and geese are quite numerous in the spring and fall, covering the rivers, lakes, and ponds.

There are four houses and three lodges in sight of Johnson's farm, whence all the neighbours called to see us. They were just the sort of men one would expect to see in such a place. One was an old man by the name of Cannon, who had been one of the party with Lewis and Clarke, and was from his own account the only remaining one in the country. He likes the country, and says he thinks there is no necessity for Dr. M'Laughlin's authority or laws to govern it.

Old Moore had some shrewdness, and was exceedingly talkative; he possessed much information in relation to the country he had passed through, which I found to correspond to what I have since received from other sources. He had crossed the mountains the year before, and found no difficulty in making the trip. He intends to return and bring out his family, being of opinion that the country is a fine one, and exceedingly healthy, and that it will compare well with the lands of Missouri and Illinois. The great objection to the upper country, on the route by which we travelled, was the want of wood.

Another of these men was named George Gay, of whom I shall speak hereafter.

We found this, as I said before, a dirty house: the people were idle and fond of lounging, and all I have yet seen are uncombed and unshaved.

These people were quite alive on the subject of laws, courts, and magistrates, including governors, judges, &c. I was here informed that a committee had been appointed to wait upon me on my arrival at the mission, to hold a consultation relative to the establishment of settled governments. Johnson, trapper-like, took what I thought the soundest view, saying that they yet lived in the bush, and let all do right, there was no necessity for laws, lawyers, or magistrates.

Having our camp equipage with us, together with plenty of provisions, our servant managed without putting him or his wife to much inconvenience; and although we passed an uncomfortable night, fighting with the fleas, yet we both agreed it was better than if we had been in our tents.

In the morning we found horses waiting, under charge of Michel La Framboise, who is in the employ of the Company, and was very happy to see us. He originally came out in the ship Tonquin, and was one of the party that landed at Astoria, where he has resided ever since, either in the employ of the Northwest or Hudson Bay Company. Michel is of low stature, and rather corpulent, but he has great energy and activity of both mind and body, indomitable courage, and all the vivacity of a Frenchman. He has travelled in all parts of the country, and says that he has a wife of high rank in every tribe, by which means he has insured his safety. From him I derived much information, and to him all parties refer as possessing the most accurate knowledge of the country. He generally has charge of a party, and was formerly engaged in trapping; but of late years passing through the country to California and back. Had it not been for his proneness to dissipation, I am informed he would have risen in the Company's service. To me he complained that he had not received what he considered his due, and that he was no better off than twenty years before, saying, "he was still Michel La Framboise, only older."

I was glad to meet with a guide of such intelligence; and having mounted our horses, we rode through the Willamette Valley. In it we passed many small farms, of from fifty to one hundred acres, belonging to the old servants of the Company, Canadians, who have settled here: they all appear very comfortable and thriving. We stopped for a few hours at the Catholic Mission, twelve miles from Champooing, to call upon the Rev. Mr. Bachelét, to whom I had a note of introduction, from Dr. M'Laughlin, and who received me with great kindness. Mr. Bachelét is here settled among his flock, and is doing great good to the settlers in ministering to their temporal as well as spiritual wants.

He spoke to me much about the system of laws the minority of the settlers were desirous of establishing, but which he had objected to, and advised his people to refuse to co-operate in; for he was of opinion that the number of settlers in the Willamette Valley would not warrant the establishment of a constitution, and as far as his people were concerned there was certainly no necessity for one, nor had he any knowledge of crime having been yet committed.

Annexed to Mr. Bachelét's house is a small chapel, fully capable of containing the present congregation.

They are erecting a large and comfortable house for Mr. Bachelét, after which it is intended to extend the chapel. These houses are situated on the borders of an extensive level prairie, which is very fertile, having a rich deep alluvial soil; they also have near them a forest of pine, oak, &c. They are now occupied in turning up the fields for the first time. Mr. Bachelét informed me that it was intended to take enough of land under cultivation to supply a large community, that will be attached to the mission; for it is the intention to establish schools here, for the instruction of the Indians as well as the Canadians and other settlers. He has already ten Indian children under his care. Mr. Bachelét informed me that the mission had been established about a year, and that it had already done much good. When he first arrived all the settlers were living with Indian women, whom they have since married, and thus legalized the connexion. This was the first step he had taken towards their moral improvement, and he had found it very successful. There were about thirty Canadian families settled here, besides about twenty persons who have no fixed residence, and are labourers. The number of Indians is estimated at between four and five hundred, including all tribes, sexes, and ages. The district under Mr. Bachelét's superintendence takes in about fifty square miles, including the Willamette Valley, Faulitz, and Yam-Hill Plains, and extending below the Willamette Falls as far as the Klackamus river. The number of white residents, including the missionaries of both denominations, is thought to be about sixty.

Mr. Drayton, Michel, and myself, dined with Mr. Bachelét, on oatmeal porridge, venison, strawberries, and cream. This hospitality was tendered with good and kind feelings, and with a gentlemanly deportment that spoke much in his favour, and made us regret to leave his company so soon.

When we reached Michel's house, he left us, finding there was no further need for his services, as we were now accompanied by Plumondon, Johnson, George Gay, and one or two other guides, with horses.

We soon after came to some American and English settlers, and then entered on the grounds of the Methodist Mission. One of the first sights that caught my eye was a patent threshing machine in the middle of the road, that seemed to have been there for a length of time totally neglected.

We rode on to the log houses which the Messrs. Lee built when they first settled here. In the neighbourhood are the wheelright's and blacksmith's, together with their work-shops, belonging to the mission, and, about a mile to the east, the hospital, built by Dr. White, who was formerly attached to this mission. I was informed by many of the settlers that this gentleman had rendered very essential service to this district. His connexion with the mission was dissolved when he returned to the United States.*

The hospital is now used for dwellings by some of the missionaries. It is, perhaps, the best building in Oregon, and accommodates at present four families: it is a well-built frame edifice, with a double piazza in front. Mr. Abernethy and his wife entertained us kindly. He is the secular agent of the mission. Order and neatness prevail in their nice apartments, where they made us very comfortable, and gave us such hospitality as we should receive at home. It seemed an out-of-the-way place to find persons of delicate habits, struggling with difficulties such as they have to encounter, and overcoming them with cheerfulness and good temper.

Near the hospital are two other houses, built of logs, in one of which Dr. Babcock, the physician of the mission, lives.

We paid Dr. Babcock a visit in the evening, and found him comfortably lodged. He stated to me that the country was healthy, although during the months of August and September, they were subject to fever and ague on the low grounds, but in high and dry situations he believed they would be free from it. A few other diseases existed, but they were of a mild character, and readily yielded to simple remedies. He is also of opinion that the fever and ague becomes milder each season, as the individuals become acclimated.

The lands of the Methodist Mission are situated on the banks of the Willamette river, on a rich plain adjacent to fine forests of oak and pine. They are about eight miles beyond the Catholic Mission, consequently eighteen miles from Champooing, in a southern direction. Their fields are well enclosed, and we passed a large one of wheat, which we understood was self-sown by the last year's crop, which had been lost through neglect. The crop so lost amounted to nearly a thousand bushels, and it is supposed that this year's crop will yield twenty-five bushels to the acre. About all the premises of this mission there was an evident want of the attention required to keep things in repair, and an absence of neatness that I regretted much to witness. We had the expectation of getting a sight of the Indians on whom they were inculcating good habits and teaching the word of God; but with the exception of four Indian servants, we saw none since leaving the Catholic Mission. On inquiring, I was informed that they had a school of twenty pupils, some ten miles distant, at the mill; that there were but few adult Indians in the neighbourhood; and that their intention and principal hope was to establish a colony, and by their example to induce the white settlers to locate near those over whom they trusted to exercise a moral and religious influence.

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* Dr. White has since returned to Oregon, in the capacity of Indian Agent.

A committee of five, principally lay members of the mission, waited upon me to consult and ask my advice relative to the establishment of laws, &c. After hearing attentively all their arguments and reasons for this change, I could see none sufficiently strong to induce the step. No crime appears yet to have been committed, and the persons and property of settlers are secure. Their principal reasons appear to me to be, that it would give them more importance in the eyes of others at a distance, and induce settlers to flock in, thereby raising the value of their farms and stock. I could not view this subject in such a light, and differed with them entirely as to the necessity or policy of adopting the change.

1st. On account of their want of right, as those wishing for laws were, in fact, a small minority of the settlers.

2d. That these were not yet necessary even by their own account.

3d. That any laws they might establish would be a poor substitute for the moral code they all now followed, and that evil-doers would not be disposed to settle near a community entirely opposed to their practices.

4th. The great difficulty they would have in enforcing any laws, and defining the limits over which they had control, and the discord this might occasion in their small community.

5th. They not being the majority, and the larger part of the population being Catholics, the latter would elect officers of their party, and they would thus place themselves entirely under the control of others.

6th. The unfavourable impressions it would produce at home, from the belief that the missions had admitted that in a community brought together by themselves they had not enough of moral force to control it and prevent crime, and therefore must have recourse to a criminal code.

From my own observation and the information I had obtained, I was well satisfied that laws were not needed, and were not desired by the Catholic portion of the settlers. I therefore could not avoid drawing their attention to the fact, that after all the various officers they proposed making were appointed, there would be no subjects for the law to deal with. I further advised them to wait until the government of the United States should throw its mantle over them. These views, I was afterwards told, determined a postponement of their intentions.

Dr. Babcock and others, myself and officers, were tendered an invitation from the American settlers of the Willamette, to partake of a 4th of July dinner with them, which I was obliged to decline, on account of the various duties that pressed upon us.

The next day the gentlemen of the mission proposed a ride to what they term "the Mill," distant about nine miles, in a southeast direction.

We passed, in going thither, several fine prairies, both high and low. The soil on the higher is of a gravelly or light nature, while on the lower it is a dark loam, intermixed with a bluish clay. The prairies are at least one-third greater in extent than the forest: they were again seen carpeted with the most luxuriant growth of flowers, of the richest tints of red, yellow, and blue, extending in places a distance of fifteen to twenty miles.

The timber we saw consisted of the live and white oak, cedar, pine, and fir.

We reached "the Mill" by noon, which consists of a small grist and saw mill on the borders of an extensive prairie. They are both under the same roof, and are worked by a horizontal wheel. The grist-mill will not grind more than ten bushels a day; and during the whole summer both mills are idle, for want of water, the stream on which they are situated being a very small one, emptying into the Willamette. We found here two good log houses, and about twenty lay members, mechanics, of the mission under Mr. Raymond, who is the principal at the mills. There are, besides, about twenty-five Indian boys, who, I was told, were not in a condition to be visited or inspected. Those whom I saw were nearly grown up, ragged and half-clothed, lounging about under the trees. Their appearance was any thing but pleasing and satisfactory; and I must own I was greatly disappointed, for I had been led to expect that order and neatness at least would have been found among them, considering the strong force of missionaries engaged here.

From the number of persons about the premises, this little spot had the air and stir of a new secular settlement; and I understood that it is intended to be the permanent location of the mission, being considered more healthy than the bank of the Willamette. The missionaries, as they told me, have made individual selections of lands to the amount of one thousand acres each, in prospect of the whole country falling under our laws.

We received an invitation from Mr. Raymond to take dinner, which we accepted; previous to which, I rode about two miles, to the situation selected by the Rev. Mr. Hines, in company with that gentleman. On our way, he pointed out to me the site selected for the seminary, &c. We found Mr. Hines's family encamped under some oak trees, in a beautiful prairie, to which place he had but just removed; he intended putting up his house at once, and they had the ordinary comforts about them. We returned, and found the table well spread with good things, consisting of salmon, pork, potted cheese, strawberries and cream, and nice hot cakes, and an ample supply for the large company.

We were extremely desirous of obtaining information relative to the future plans of these missionaries as to teaching and otherwise forwarding the civilization of the Indian boys; but from all that we could learn from the missionaries, as well as lay members, my impression was, that no fixed plan of operations has yet been digested; and I was somewhat surprised to hear them talking of putting up extensive buildings for missionary purposes, when it is fully apparent that there is but a very limited field for spiritual operations in this part of the country. The number now attached and under tuition are probably all that can be converted, and it does not exceed the number of those attached to the mission. I was exceedingly desirous of drawing their attention to the tribes of the north, which are a much more numerous and hardier race, with a healthy climate. It is true that a mission station has been established at Nisqually, but they are doing nothing with the native tribes, and that post is only on the borders of many larger tribes to the northward. As the holders of a charge, committed to their hands by a persevering and enlightened class of Christians at home, who are greatly interested in their doings and actions, they will be held responsible for any neglect in the great cause they have undertaken to advance, and in which much time and money have already been spent.

That all may judge of the extent of this field of missionary labours I will enumerate the numbers of Indians within its limits. Nisqually, two hundred; Clatsop, two hundred and nine; Chinooks, two hundred and twenty; Kilamukes, four hundred; Callapuyas, six hundred; Dalles, two hundred and fifty: say in all this district, two thousand Indians; and this field is in part occupied by the Catholics, as I have before stated. Of these, the Methodist missionaries have under their instruction, if so it may be called, twenty-five at the Willamette station; at the Dalles, and occasionally on the Klackamus river, are the only places where divine service is attempted. I would not have it understood that by these remarks I have any desire to throw blame on those who direct or are concerned in this missionary enterprise, or to make any imputations on the labourers; but I feel it a duty I owe my countrymen, to lay the truth before them, such as we saw it. I am aware that the missionaries come out to this country to colonize, and with the Christian religion as their guide and law, to give the necessary instruction, and hold out inducements to the Indians to quit their wandering habits, settle, and become cultivators of the soil. This object has not been yet attained in any degree, as was admitted by the missionaries themselves; and how it is to be effected without having constantly around them large numbers, and without exertions and strenuous efforts, I am at a loss to conceive. I cannot but believe, that the same labour and money which have been expended here, would have been much more appropriately and usefully spent among the tribes about the Straits of Juan de Fuca, who are numerous, and fit objects for instruction.

At the Rev. Mr. Hines's I had another long conversation relative to the laws, &c. The only instance (which speaks volumes for the good order of the settlers), of any sort of crime being committed since the foundation of the settlement, was the stealing of a horse; and a settler who had been detected stealing his neighbour's pigs, by enticing them to his house, dropping them into his cellar, where they were slaughtered and afterwards eaten. The theft was discovered by the numbers of bones frequently found around his premises. He was brought to a confession, and compelled to pay the value of the stolen hogs, simply by the force of public opinion.

We took leave of Mr. Raymond and his party, wishing them success in their labours, and rode back over the fine prairies at a full gallop, in the direction that seemed most convenient to save us distance. We stopped for a short time to take leave of Mr. and Mrs. Abernethy, and then passed to the site of the old mission on the banks of the Willamette. The river here makes a considerable bend, and has undermined and carried away its banks to some extent: a short distance beyond, it is making rapid inroads into the rich soil of these bottom lands. The log houses have the character that all old log houses acquire, and I was warned, if I desired to pass a comfortable night, to avoid them.

This is the usual place of crossing the river, which is too deep to be forded, and about two hundred yards wide. Its banks were twenty feet high, and composed of stratified layers of alluvium. On the shore of the river, which consists of a shingle beach some two hundred feet wide, are to be found cornelians, agates, and chalcedony, among the loose pieces of basalt of which it is composed. The current was found to run at the rate of three miles an hour, although the water was said to be low. An old canoe was procured, in which we passed over, while one of the horses was led, and swam by its side: the rest were driven into the water, and followed to the opposite side. Here we met George Gay, who was travelling with his Indian wife: he told us that he would join us on our trip to the Yam Hills, which we proposed to make the next day.

We found our camp established by Plumondon, near the residence of Mr. O'Neill, formerly the property of the Rev. Mr. Leslie: it lies about a mile from the river, in a pretty, oval prairie, containing about three or four hundred acres, with a fine wood encircling it. Sixty of these are under cultivation; about forty in wheat, that was growing luxuriantly.

Three years since, O'Neill came to the valley with only a shirt to his back, as he expressed it: he began by working part of this farm, and obtained the loan of cattle and other articles from Dr. M'Laughlin, all of which he has, from the natural increase of his stock and out of his crops, since repaid. He has bought the farm, has two hundred head of stock, horses to ride on, and a good suit of clothes, all earned by his own industry; and he says it is only necessary for him to work one month in the year to make a living: the rest of the time he may amuse himself. He spoke in the highest terms of Dr. M'Laughlin, and the generous aid he had afforded him in the beginning. This farm is the best we have seen, in every respect; and it is not only well arranged, but has many advantages from its location. The success of O'Neill is a proof of what good education and industrious habits will do, and it is pleasing to see the happiness and consideration they produce. Mr. O'Neill is also a mechanic, and has gained much of his wealth in that way: he ploughs and reaps himself, and is assisted by a few Indians, whom he has the tact to manage. He has a neat kitchen-garden, and every thing that a person in his situation can desire.

The Rev. Mr. Leslie, who lives with O'Neill, invited us to the hospitality of his roof, but we preferred our camp to putting him to any inconvenience.

The next day (9th of June) we started for the Yam Hills, which divide the valleys of the Willamette and Faulitz. They are of but moderate elevation: the tops are easily reached on horseback, and every part of them which I saw was deemed susceptible of cultivation. The soil is a reddish clay, and bears few marks of any wash from the rains. These hills are clothed to the very top with grass, and afford excellent pasturage for cattle, of which many were seen feeding on them. On our route through the Yam Hills, we passed many settlers' establishments. From their top, the view is not unlike that from Mount Holyoke, in Massachusetts, and the country appears as if it were as much improved by the hand of civilization. The oak trees sprinkled over the hills and bottoms have a strong resemblance to the apple-orchards. The extent of country we looked over is from twenty-five to thirty miles, all of which is capable of being brought to the highest state of cultivation. There are in truth few districts like that of the valley of the Faulitz.

We passed one or two brick-kilns, and finally reached the new residence of George Gay, one of the most remote on this side of the river. George had reached home with his wife and two children not long before us. His dwelling was to all appearance a good shanty, which contains all his valuables. George is of that lazy kind of lounging figure so peculiar to a backwoodsman or Indian. He has a pretty and useful Indian wife, who does his bidding, takes care of his children and horses, and guards his household and property. The latter is not bulky, for superfluities with George are not to be found, and when he and his wife and children are seen travelling, it is manifest that his all is with him. George is a useful member of society in this small community: he gelds and marks cattle, breaks horses in, and tames cows for milking, assists in finding and driving cattle,—in short, he undertakes all and every sort of singular business; few things are deemed by him impossibilities; and lastly, in the words of one of the settlers, "George is not a man to be trifled or fooled with." I felt, when I had him for my guide, that there were few difficulties he could not overcome. He is full as much of an Indian in habits as a white man can be. He told me he bore the Indians no love, and is indeed a terror to them, having not unfrequently applied Lynch law to some of them with much effect. The account he gave of himself is, that he was born of English parents, but became, before he had grown up, more than half Indian, and was now fully their match. I will add, that he is quite equal to them in artifice. He passes for the best lasso-thrower in the country, and is always ready to eat, sleep, or frolic: his wife and children are to him as his trappings. He has with all this many good points about him. I have seen him, while travelling with me, dart off for half a mile to assist a poor Indian boy who was unable to catch his horse, lasso the horse, put the boy on, and return at full gallop. All this was done in a way that showed it to be his every-day practice; and his general character throughout the settlement is, that George is ever ready to help those in trouble.

On our return towards the road, we passed the farm of one of Dr. M'Laughlin's sons, who has settled here, and has an extensive portion of the prairie fenced in. This part of Willamette Valley is a prolonged level, of miles in extent, circumscribed by the woods, which have the appearance of being attended to and kept free from undergrowth. This is difficult to account for, except through the agency of fire destroying the seeds. The Indians are in the habit of burning the country yearly, in September, for the purpose of drying and procuring the seeds of the sunflower, which they are thus enabled to gather with more ease, and which form a large portion of their food. That this is the case appears more probable from the fact that since the whites have had possession of the country, the undergrowth is coming up rapidly in places.

In passing through the Willamette, I had a good opportunity of contrasting the settlers of different countries; and, while those of French descent appeared the most contented, happy, and comfortable, those of the Anglo-Saxon race showed more of the appearance of business, and the "go-ahead" principle so much in vogue at home.

The most perfect picture of content I saw was a French Canadian by the name of La Bonte, on the Yam Hill river, who had been a long time in the service of the Hudson Bay Company. This man was very attentive to us, and assisted in getting our horses across the river, which, though but a few rods wide, is yet deep and attended with much difficulty in passing.

The sudden rises of this river are somewhat remarkable and difficult to be accounted for, as there does not appear from the face of the country to be much ground drained by it. The perpendicular height of the flood is, at times, as much as thirty feet, which was marked very distinctly on the trees growing on its banks.

Having heard that the farm of the late Mr. Young was the most beautiful spot in this section of the country, I determined to visit it, and for this purpose crossed the Yam Hills again. When we reached the top, we again had a view of the Faulitz Plains, which were highly picturesque. The hills here were covered, as we had found them before, with wall-flowers, lupines, scilla, and quantities of ripe strawberries. Mr. Young's farm is situated in a valley, running east and west, which seems to unite that of Willamette and Faulitz. The situation did not meet my high-raised expectations, though it is fine. Mr. Young was one of the first pioneers and settlers in this country and met with much difficulty. At one time he was desirous of establishing a distillery, but through the influence of Mr. Slacum, who was on a visit to Oregon as an agent of our government, he relinquished the idea, notwithstanding he had already incurred considerable expense.

Mr. Young was, at the time, of opinion that unless they had cattle, to which he believed the country was well adapted, they never could succeed in creating a successful settlement, and it was necessary to go to considerable expense to obtain them from California, as the Hudson Bay Company, or rather the Puget Sound Company, would not part with any. Mr. Slacum generously offered to advance the money necessary, and to give as many Americans as desired it, a free passage to San Francisco, in California, there to purchase stock and to drive them through to the Willamette. This was accordingly done, and after many difficulties, the cattle reached the Willamette in 1839. Mr. Young took charge of the share of Mr. Slacum, which then amounted to twenty-three. Previous to our arrival on the Northwest Coast, we heard from the United States of the death of Mr. Slacum, and on our arrival there that of Mr. Young was also made known to me. The funds and property of Mr. Young, by general consent of the settlers, were put into the hands of the Rev. Mr. Leslie, who acted as administrator, and informed me that at the division of Mr. Young's cattle, eighty-six had been put aside as the share of Mr. Slacum, after the proportion of loss and accidents had been deducted, making the increase in four years, sixty-three. Of these cattle no other care had ever been taken than to drive them into the pens for protection at night. Mr. Slacum's share was subsequently sold at the request of his nephew, who was a midshipman on board my ship, to Dr. M'Laughlin for eight hundred and sixty dollars—ten dollars a head.

The Willamette is now, through the interest felt and advances made by Mr. Slacum, well supplied with cattle, which are fast increasing in numbers.

We found the farm of Mr. Young very much out of order, although I understood that two persons had been put in charge of it on wages at one dollar a day. The farm-house at which we stopped, was entirely open, and every thing seemed to be going fast to ruin. Johnson, in hunting about the premises, found a sick man, a native of the Sandwich Islands, lying in a bunk. In a small kitchen half a pig was hanging by its hind legs, roasting over a slow fire; and every thing seemed in confusion. We did not stay long, but rode on to his saw-mill, which we found in ruins. It was badly located, although erected at much expense, for there was little timber of value in the neighbourhood. Shortly after Mr. Young's death the mill-dam was washed away, and there was no money to erect it again, even if it had been thought desirable to do so. We found it wholly deserted. I was desirous of having some further search made for the bones of a mastodon, parts of whose skeleton had been obtained by Captain Goach, master of a small vessel engaged in the salmon-fishery, a few months before our arrival. On the locality being pointed out, I found that the mass of the dam and other alluvial deposits had been heaped upon the place, and created such an obstruction as would have rendered their removal an herculean task, and have required some weeks' labour.

Neither I nor my officers had time to spare to accomplish this task; besides, it was very probable that the bones, which had been represented to me as nearly denuded prior to the flood, had been washed away and lost. The bank in which the bones were found is composed of red marl and gravel.

After leaving the mill, we had a long ride before us; for it was our intention to reach Champooing before dark. The country, as we approached that place, became much more thickly settled, and the ground stony. Before dark we reached a deserted house, belonging to George Gay, opposite to Champooing, and formerly occupied by Mr. Young. Finding the stream difficult to cross, we determined to take up our quarters in this house. About two miles from our stopping-place, we passed some salt springs, to which the cattle and game resort in great numbers: they are strongly saline, and cover a considerable extent of ground. This is considered, as Johnson informed me, the best grazing ground for their cattle.

In consequence of the baggage-horses and party losing their way, they did not reach the camp until near midnight.

Shortly after our arrival, George Gay was employed "to break in," as he called it, a cow for milking! This operation, as performed by George, however necessary, was not calculated to raise him in any one's opinion, and therefore I shall not venture upon a description, farther than to say, that the treatment the poor beast received was in my opinion as unnecessary as it was cruel.

In the evening, we had a visit from Mr. Moore and several of the other neighbours, and I was much amused with the various accounts they gave of their trappers' life. I must here express the correct views they entertained relative to the introduction of spirits into the settlement. To my surprise, they seemed to be of an unanimous opinion that spirituous liquors would soon destroy them; and since Mr. Slacum's visit they have entered into an agreement among themselves to forego their use. It is a wise determination, and as long as adhered to the country will thrive. But should this pest be introduced, the vice of drunkenness will probably reach a height unknown elsewhere; for such is the ease with which a livelihood is gained here, that persons may be supported, and indeed grow rich, in idleness. According to the inhabitants, one month in a year of labour is all that is required for a comfortable support. This labour consists in preparing the ground, putting the seed into it, and when it is ripe, reaping the harvest. Cattle, as I have before said, require no protection or care, except to guard them from the wolves. Two-thirds of the time of the settlers is consequently at their own disposal; and unless education, with its moral influence, is attended to strictly in this young settlement, these very advantages will prove its curse. On the missionaries who have settled here will depend in a great measure the future character of the inhabitants; and on them also will rest the responsibility of maintaining the morals, as well as superintending the education, of the rising population. I trust they will both see and feel the great necessity of that strict attention to their duties necessary to insure success.

In the morning, before dawn, the two Indian boys belonging to Johnson came over to our hut for the purpose of looking for their milk-pans. Unknown to us, we had laid on its side, for a seat, a cupboard which contained them. This the boys came in search of, and in their haste awoke Mr. Drayton, who naturally thought they intended to steal some of our things: he accordingly pelted them with our boots and shoes, and all other articles that came to hand. This aroused us all, when a general outcry was raised, and the Indian boys made a precipitate retreat, not, however, before they had secured one of the objects of their search.

After breakfast, we crossed the river to Johnson's, and I was, on this second visit, more impressed with the filth, both in and out doors than before.

It was now determined that Mr. Drayton should take the boat down the river, and that I should pass through the eastern part of the Willamette Valley on horseback, to reach the falls by dark. This George Gay said could be easily done, with fresh and good horses. Taking him as a guide, I set off, and after passing a few miles, we crossed a low ridge of rough rocky ground, of trap formation, about a mile wide: it was well wooded with pines and firs. After passing the ridge, we again entered on fine prairies, part of the farm of Dr. Bailey. This was one of the most comfortable I had yet seen, and was certainly in the neatest order. Dr. Bailey had married one of the girls who came out with the missionaries, and the mistress of the establishment was as pleasing as it was well conducted. Dr.

Bailey desiring to accompany us to the falls, I gladly concluded to await their dinner, and before it was served had an opportunity of looking about the premises. The locality resembles the prairies I have so often spoken of, but there was something in the arrangements of the farm that seemed advanced beyond the other settlements of the country. The garden was, in particular, exceedingly well kept, and had in it all the best vegetables of our own country. This was entirely the work of Mrs. Bailey, whose activity could not rest content until it was accomplished. She had followed the mission as a teacher, until she found there was no field for labour. She had been in hope that the great missionary field to the north, of which I have before spoken, would be occupied; but this being neglected, she had left them

Dr. Bailey had been the practising physician of the mission. He had been several years in the country, and was one of a party that, while passing through to California, was attacked by the Indians in their camp, and nearly all murdered. Dr. Bailey, after being severely wounded, made his escape, and returned to the Willamette; but he bears the marks of several wounds on his head and face. He spoke well of the country, considers it fruitful, and healthy for white men; and that it would be so for the Indians, if they could be persuaded to take care of themselves. The ague and fever, though common on the low prairies, was not of a dangerous type, and after the first attack, those of subsequent years were less violent, even if it did occur, which was rare. The climate, however, was very destructive to the Indians, of whom at least one-fourth died off yearly.

When an Indian is sick, and considered beyond moving, he is poisoned by the medicine-man; for which purpose a decoction of the wild cucumber (Bryonia) is given him. Some of the roots of this plant grow to a very large size; and I saw some at Mr. Waller's three feet long by twelve inches in diameter.

Dr. Bailey also related to me an anecdote of Mr. Farnham,* who has written upon Oregon. A few days before the latter left the country, they were lost in the woods, and were obliged to pass a cold and dark night up to their ankles in mire: this the Doctor thought had cured his enthusiasm; and the first news he received of him was his violent attack upon the country on which, a few months before, he had written so strong a panegyric.

The next farm I stopped at was that of Mr. Walker, who came from Missouri, with all his family, last year: he did not like the country, and wished to go to California by the first opportunity. His principal objection, he told me, was to the climate, which was too wet for business. He said that the land was good, but only for crops of small grain, which there is no market for, nor is there a probability of one for some time. Indian corn cannot be raised: it was, however, a first-rate grazing country. He was a good specimen of a borderman, and appeared to think nothing of a change of domicile, although he is much past the middle age, with grown-up sons and daughters around him. He intended to go to California, and if the country did not please him, he would travel home by way of Mexico. His family consisted of eight or ten persons.*

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* Mr. Farnham had been staying with Dr. Bailey, and had prepared during that time the memorial of the settlers to Congress, speaking of it in the highest and most exalted terms, and was one of the most enthusiastic in its praise. His account subsequently given of Oregon, differs very materially from the memorial.

George Gay now thought it proper to notify me that we ought not to delay any longer, as we had to cross the Powder river, and he did not know the state it was in. After a hard gallop, we reached that stream at the usual fording-place. We, however, found that it was entirely filled with drift-wood, and impassable at that place for our horses. This difficulty was soon obviated, for while we were transporting the saddles, &c., across the raft of timber, he had searched out a place where the horses might cross, and dashed in on one of them, while we drove the others into the river. We were soon mounted again, and on our way. This stream is about four hundred feet wide, and then about twenty feet deep. Quantities of large and fine timber were locked together, until they entirely covered the surface.

The country now became exceedingly rough, overgrown with brushwood, and in places wet and miry. It was chiefly covered with heavy pine timber. From Dr. Bailey I learned that the small prairies we occasionally passed were not capable of cultivation, owing to their being flooded after a few hours of rain.

A few miles further on we passed the Little Powder river, which was termed fordable, though the horses were obliged to swim it, after which Gay gave me a specimen of his rapid mode of riding. Having made up my mind to follow, I kept after him, and on my arrival at the falls, could not help congratulating myself that we had reached our destination in safety, for the last few miles of the route was a sort of break-neck one.

At the falls I found Mr. Drayton comfortably encamped, and Mr. and Mrs. Waller again pressed us to partake of their hospitality. I occupied the evening in getting my usual observations for latitude and time.

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* Mr. Walker subsequently joined the party I sent across to California, from the Willamette, and then entered the service of Mr. Suter.

Mr. Drayton desiring to stay a longer time at the falls, to procure as many specimens of fish as he could, and make drawings, I determined to return to Vancouver without him; which I did by the following day at sunset. On the way I stopped at the boat-builders' camp, who I found had made great progress in their undertaking, and appeared to work with great unanimity.

At Vancouver, I was again kindly made welcome by Dr. M'Laughlin, Mr. Douglass, and the officers of the establishment. During my absence, Mr. Peter Ogden, chief factor of the northern district, had arrived with his brigade. The fort had, in consequence, a very different appearance from the one it bore when I left it. I was exceedingly amused with the voyageurs of the brigade, who were to be seen lounging about in groups, decked in gay feathers, ribands, &c., full of conceit, and with the flaunting air of those who consider themselves the beau-ideal of grace and beauty; full of frolic and fun, and seeming to have nothing to do but to attend to the decorations of their persons and seek for pleasure; looking down with contempt upon those who are employed about the fort, whose sombre cast of countenance and business employments form a strong contrast to these jovial fellows.

Mr. Ogden has been thirty-two years in this country, and consequently possesses much information respecting it; having travelled nearly all over it. He resides at Fort St. James, on Stuart's Lake, and has six posts under his care.

The northern section of the country he represents as not susceptible of cultivation, on account of the proximity of the snowy mountains, which cause sudden changes, even in the heat of summer, that would destroy the crops.

His posts are amply supplied with salmon from the neighbouring waters, that empty themselves into the sounds on the coast. These fish are dried, and form the greatest part of the food of those employed by the Company during the whole year. Their small-stores of flour, &c., are all carried from Colville and Vancouver. Furs are very plenty in the northern region, and are purchased at low prices from the Indians: his return, this year, was valued at one hundred thousand dollars, and this, he informed me, was much less than the usual amount.

On the other hand, the southern section of this country, I was here informed, was scarcely worth the expense of an outlay for a party of trappers.

This southern country, as will be seen from what has been already stated, is very well adapted to the raising of cattle and sheep: of the former, many have been introduced by parties, which trap on their way thither and return with cattle. Although there were but a few head of them four or five years before, in 1841 there were upwards of ten thousand. The whole country is particularly adapted to grazing, which, together with the mildness of the climate, must cause this region to become, in a short time, one of the best-stocked countries in the world.

The price of cattle may be quoted at ten dollars a head; but those that are broken in for labour, or milch-cows, command a higher price; and in some places in the Willamette Valley they have been sold for the enormous price of eighty dollars. Every endeavour is made to keep the price of cattle up, as labour is usually paid for in stock.

The price of labour for a mechanic may be set down at from two dollars and a half, to three dollars a day; and there is much difficulty to procure them even at that rate. The wages for a common labourer is one dollar per day. The price of wheat is fixed at sixty-two and a half cents per bushel by the Company; for which any thing but spirits may be drawn from the stores, at fifty per cent. advance on the London cost. This is supposed, all things taken into consideration, to be equal to one dollar and twelve cents per bushel; but it is difficult for the settlers so to understand it, and they are by no means satisfied with the rate. There is a description of currency here, called beaver money; which seems to be among the whites what blankets are among the Indians. The value of the currency may be estimated from the fact, that a beaver-skin represents about two dollars throughout the territory.

In speaking of the Willamette Valley, I have viewed its advantages for raising crops, pasturage of stock, and the facilities of settlers becoming rich. There is, however, one objection to its ever becoming a large settlement, in consequence of the interruption of the navigation of its rivers in the dry season; which renders it difficult to get to a market, as well as to receive supplies.

The salmon-fishery may be classed as one of the great sources of wealth, for it affords a large amount of food at a very low price, and of the very best quality: it does not extend above the falls. I found it impossible to obtain any data to found a calculation of the quantity taken, but it cannot be short of eight hundred barrels; and this after the Indian manner of catching them, as before described. The finest of the salmon are those caught nearest the sea.

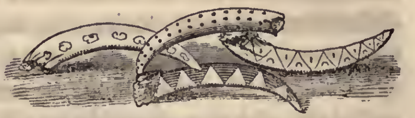
The settlers and Indians told us that the salmon as they pass up the river become poorer, and when they reach the tributaries of the upper Columbia, they are exceedingly exhausted, and have their bodies and heads much disfigured and cut, and their tails and fins worn out by contact with the rocks. Many of the salmon in consequence die: these the Indians are in the habit of drying for food, by hanging them on the limbs of trees. This is to preserve them from the wolves, and to be used in time of need, when they are devoured, though rotten and full of maggots. The fish of the upper waters are said to be hardly edible, and, compared with those caught at the mouth of the Columbia, are totally different in flavour. The latter are the richest and most delicious fish I ever recollect to have tasted: if any thing, they were too fat to eat, and one can perceive a difference even in those taken at the Willamette Falls, which, however, are the best kind for salting. There are four different kinds of salmon, which frequent this river in different months: the latest appears in October, and is the only kind that frequents the Cowlitz river. The finest sort is a dark silvery fish, of large size, three or four feet long, and weighing forty or fifty pounds.

There is one point which seems to be still in doubt, namely, where the spawn of this fish is deposited. It is asserted, and generally believed, that none of the old fish ever return to the sea again. It has not been ascertained whether the young fry go to the ocean; and, if they do so, whether as spawn or young fish. Some light will be thrown on this subject in the Ichthyological Report.

Mr. Drayton, during the time he remained at the falls, procured a beautiful specimen of a small-sized sucker, which the Indians caught in their nets, and of which he made a drawing. The lamprey eels were also a source of curiosity: they seemed to increase in numbers, crawling up by suction an inch at a time. At these eels the boy who accompanied Mr. Drayton took pleasure in throwing stones, which excited the wrath of the Indians, as they said they should catch no more fish if he continued his sport. They have many superstitions connected with the salmon, and numerous practices growing out of these are religiously observed: thus, if any one dies in their lodges during the fishing season, they stop fishing for several days; if a horse crosses the ford, they are sure no more fish will be taken.

During the fishing season there are about seventy Indians, of both sexes, who tarry at the falls, although the actual residents are not, according to Mr. Waller, beyond fifteen. They dwell in lodges, which resemble those described heretofore, and are built of planks split from the pine trees. These are set up on end, forming one apartment, of from thirty to forty feet long, by about twenty wide. The roof has invariably a double pitch, and is made of cedar bark: the doorway is small, and either round or rounded at the top. I have mentioned that the outside is well stocked with fleas: it need scarcely be said what the condition of the inside is.

These Indians are to be seen lounging about or asleep in the daytime; but they generally pass their nights in gambling. Mr. Drayton, while at the falls, obtained a knowledge of some of their games. The women usually play during the day at a game resembling dice. The implements are made of the incisor teeth of the beaver, and four of these are used, which are engraved on two sides with different figures, and the figures on two of the teeth are alike: these are taken in the hand and thrown on a mat, the players sitting on it, opposite to one another. They are of the shape represented in the cut. If all the blank sides come up, it counts nothing; if all the engraved or marked sides, it counts two; if two blanks and two differently marked sides, it counts nothing; but if two with like marks, it counts one. The game is generally twenty, which are marked with pieces of stick; the tens are noted with a smaller stick. This game is played for strings of dentalium, called by them "ahikia;" each string is about two feet long, and will pass for considerable value, as the shells are difficult to procure: ten of them are said to be worth a beaver-skin.



INDIAN DICE.

The men and boys play a game with small bows and arrows: a wheel, about a foot in diameter, is wound round with grass, and is rolled over smooth ground; the players are divided into two parties: one rolls the wheel, while the other shoots the arrow at it. If he sticks his arrow into the wheel, he holds it on the ground edgewise towards the one who rolled it, who, if he shoots his arrow into it, wins his opponent's arrow; and this goes on by turns.

Another game is played by a party of men and boys, in the following manner: two poles are taken, six or eight feet long, and wound round with grass; these are set up about fifty feet apart. Each player has a spear, which he throws in his turn. Whichever side, after a number of throws, puts the greatest number of spears in their opponent's pole, wins the game. The usual bet among the men is a cotton shirt.

Mr. Drayton also paid a visit to the Indian village on the Klackamus river, which is about three miles from the falls, in company with Mr. Waller. The village is one and a half miles up the Klackamus, and its inhabitants number about forty-five individuals. Mr. Waller went there to preach, and about half the inhabitants of the village attended. The chief was the interpreter, and was thought to have done his office in rather a waggish sort of manner. Preaching to the natives through an interpreter is at all times difficult, and especially so when the speaker has to do it in the Indian jargon of the country. This village has been disputed ground between Mr. Waller and Mr. Bachelét, the former claiming it as coming within his district. Not long before our visit, Mr. Bachelét had planted a staff and hoisted on it a flag bearing a cross. When this became known to Mr. Waller, he went to the place and pulled it down, and has driven Mr. Bachelét away. Such difficulties are very much to be deprecated, as they cannot but injure the general cause of Christianity in the eyes of the natives; and it is to be wished that they could be settled among the different sects without giving them such publicity; for the natives seldom fail to take advantage of these circumstances, and to draw conclusions unfavourable to both parties.

The men of the Klackamus village are rather taller and better-looking than the Clatsop or Chinook Indians: they belong to the Callapuya tribe. The women and children are most of them crippled and diseased. They have been quite a large tribe in former times, as is proved by the crowded state of their burying-ground, which covers quite a large space, and has a multitude of bones scattered around.

Their mode of burial is to dig a hole, in which the body is placed, with the clothes belonging to the individual: it is then covered up with earth, and a broad head-board is placed upright, of from two to six feet high, which is frequently painted or carved with grotesque figures: all the personal property of the deceased is placed upon this, consisting of wooden spoons, hats, tin kettles, beads, gun-barrels bent double, and tin pots. Although they are very superstitious about disturbing the articles belonging to the dead, yet all these have holes punched in them, to prevent their being of any use to others, or a temptation to their being taken off. It frequently happens that the head-boards will not hold all the articles, in which case sticks are used in addition. To rob their burying-grounds of bodies, is attended with much danger, as they would not hesitate to kill any one who was discovered in the act of carrying off a skull or bones.

Of their medicine-men they have a great dread, and even of their bones after death. Thus, a medicine-man was buried near this burying-ground about a year before our visit to the country, whose body the wolves dug up: no one could be found to bury his bones again, and they were still to be seen bleaching on the surface of the ground.

It is no sinecure to be a medicine-man; and if they inspire dread in others, they are made to feel it themselves, being frequently obliged to pay the forfeit of their own lives, if they are not successful in curing their patients. The chief of the Klackamus tribe told Mr. Drayton that some of his men had gone to kill a medicine-man, in consequence of the death of his wife. These men afterwards returned with a horse and some smaller presents from the medicine-man, which he had paid to save his life.

This rule equally applies to the whites who prescribe for Indians, an instance of which occurred a short time before our arrival, when Mr. Black, a chief trader in one of the northern posts, was shot dead in his own room by an Indian to whose parent (a chief) he had been charitable enough to give some medicine. The chief died soon after taking it, and Mr. Black paid the forfeit of his kindness with his life. The deed was done in a remarkably bold and daring manner. The Indian went to the fort and desired to see Mr. Black, saying he was sick and cold. He was allowed to enter, and Mr. Black had a fire made for him, without any suspicion of his intentions. On his turning his back, however, towards the Indian, he was instantly shot, and fell dead on his face, when the man made his escape from the fort before any suspicions were excited of his being the murderer.

To Mr. Black the world is indebted for the greater part of the geographical knowledge which has been published of the country west of the Rocky Mountains; and he not only devoted much of his time to this subject, but also to the making of many collections in the other departments of natural history, as well as in geology and mineralogy.

I remained at Vancouver till the morning of the 17th, and passed these few days with much pleasure in the company of the gentlemen of the fort, of whose attentions and great kindness I shall long entertain a grateful remembrance.

Mr. Waldron now joined me from Astoria, without bringing any news of the Peacock or tender. I did not think it worth while to wait any longer their coming, when I had so much duty to perform elsewhere. After completing orders for Captain Hudson, I determined to return. Plumondon was sent to the Willamette Falls for Mr. Drayton, as I desired to have some consultation with him before my departure.

The day before I left the fort, Mr. Ogden informed me that he had made arrangements to take me as far as the Cowlitz Farm in his boat, on my way to Nisqually, and desired that I would allow Mr. Drayton to accompany him up the river as far as Wallawalla. To both of these arrangements I readily assented.

During my stay at Vancouver, I frequently saw Casenove, the chief of the Klackatack tribe. He lives in a lodge near the village of Vancouver, and has always been a warm friend of the whites. He was once lord of all this domain. His village was situated about six miles below Vancouver, on the north side of the river, and, within the last fifteen years, was quite populous: he then could muster four or five hundred warriors; but the ague and fever have, within a short space of time, swept off the whole tribe, and it is said that they all died within three weeks. He now stands alone, his land, tribe, and property all departed, and he left a dependant on the bounty of the Company. Casenove is about fifty years of age, and a noble and intelligent-looking Indian. At the fort he is always welcome, and is furnished with a plate at meal-times at the side-table. I could not but feel for the situation of one who, in the short space of a few years, has lost not only his property and importance, but his whole tribe and kindred, as I saw him quietly enter the apartment, wrapped in his blanket, and take his seat at the lonely board. He scarce seemed to attract the notice of any one, but ate his meal in silence, and retired. He has always been a great friend to the whites, and during the time of his prosperity was ever ready to search out and bring to punishment all those who committed depredations on strangers.

Casenove's tribe is not the only one that has suffered in this way; many others have been swept off entirely by this fatal disease, without leaving a single survivor to tell their melancholy tale.

The cause of this great mortality among the Indians has been attributed to the manner in which the disease has been treated, or rather to their superstitious practices. Their medicine-men and women are no better than jugglers, and use no medicine except some deleterious roots; while, from the character of these Indians, and their treatment of an unsuccessful practitioner, the whites decline administering any remedies, for fear of consequences like those to which I have alluded.

On the morning of the 17th, Vancouver was awake at an early hour, and preparations were actively making; a voyageur occasionally was to be seen, decked out in all his finery, feathers, and flowing ribands, tying on his ornamented leggins, sashes, and the usual worked tobacco and fire pouch. The latter is of the shape of a lady's reticule, and generally made of red or blue cloth, prettily worked with beads. In working them the wives of the officers of the Company exercise great taste, and it is deemed fully as essential a part of dress in a voyageur's wardrobe as in a lady's. The simple bag does not, however, afford sufficient scope for ornament, and it has usually several long tails to it, which are worked with silk of gaudy colours.

The ladies of the country are dressed after our own bygone fashions, with the exception of leggins, made of red and blue cloth, richly ornamented. Their feet, which are small and pretty, are covered with worked moccasins. Many of them have a dignified look and carriage: their black eyes and hair, and brown ruddy complexion, combined with a pleasing expression, give them an air of independence ana usefulness that one little expects to see. As wives, they are spoken of as most devoted, and many of them have performed deeds in the hour of danger and difficulty, worthy of being recorded. They understand the characters of Indians well.

About ten o'clock, we were all summoned to the great dining-hall by Dr. M'Laughlin, to take the parting cup customary in this country. When all were assembled, wine was poured out, and we drank to each other's welfare, prosperity, &c. This was truly a cup of good-fellowship and kind feeling. This hanging to old Scotch customs in the way it was done here is pleasant, and carries with it pleasing recollections, especially when there is that warmth of feeling with it, that there was on this occasion. After this was over, we formed quite a cavalcade to the river-side, which was now swollen to the top of its banks, and rushing by with irresistible force.

On reaching the river, we found one of Mr. Ogden's boats manned by fourteen voyageurs, all gaily dressed in their ribands and plumes; the former tied in large bunches of divers colours, with numerous ends floating in the breeze. The boat was somewhat of the model of our whale-boats, only much larger, and of the kind built expressly to accommodate the trade: they are provided yearly at Okonagan, and are constructed in a few days: they are clinker-built, and all the timbers are flat. These boats are so light that they are easily carried across the portages. They use the gum of the pine to cover them instead of pitch.

After having a hearty shake of the hand, Captain Varney, Mr. Ogden, and myself, embarked. The signal being given, we shoved off, and the voyageurs at once struck up one of their boat-songs. After paddling up the stream for some distance, we made a graceful sweep to reach the centre, and passed by the spectators with great animation. The boat and voyageurs seemed a fit object to grace the wide-flowing river. On we merrily went, while each voyageur in succession took up the song, and all joined in the chorus. In two hours and a half we reached the mouth of the Cowlitz, a distance of thirty-five miles.

In the Cowlitz we found a strong current to contend against, and by nightfall had only proceeded twelve miles further. As we encamped, the weather changed, and rain began to fall, which lasted till next morning.

I had much amusement in watching the voyageurs, who are as peculiar in their way as sailors. I was struck with their studious politeness and attention to each other, and their constant cheerfulness.

On the second day, our voyageurs had doffed their finery, and their hats were carefully covered with oiled skins. They thus appeared more prepared for hard work. The current became every mile more rapid, and the difficulty of surmounting it greater. The management of the boats in the rapids is dexterous and full of excitement, as well to the passengers as to the voyageurs themselves. The bowman is the most important man, giving all the directions, and is held responsible for the safety of the boat; and his keen eye and quick hand in the use of his paddle, delights and inspires a confidence in him in moments of danger that is given without stint. We did not make more than ten miles during the day, and were forced to encamp three miles below the farm.

On the 19th we reached our destination. On our approach, although there were no spectators, except a few Indians, to be expected, the voyageurs again mounted their finery, and gaily chaunted their boat-song.

Mr. Ogden had been one of the first who travelled over this part of country, and he informed me that he has seen the whole country inundated by the rise of the river. This, however, can but rarely occur, and could only be the result of a sudden melting of the snows when accompanied with violent rain-storms.

Plumondon had gone before, to request Mr. Forrest to send the wagon for our baggage; and we found it duly waiting at the landing.

In the afternoon, I made a visit, with Mr. Ogden, to the Catholic Mission, and several of the settlers' houses. That of Plumondon we found quite comfortable. The neighbourhood, though consisting of few families, appears very happy and united. They prefer the Cowlitz to the Willamette, although the land here is not so good as in the valley of the latter; but they say that many vegetables succeed here, that will not grow on the Willamette.

It was with much regret that I parted from Mr. Ogden and Captain Varney. We had enjoyed ourselves much, and I shall long remember their kindness and jovial company. The day they left us proved very rainy; it was impossible for any one to stir out, and the mud was ankle-deep. I felt disappointed at this, as I wished to make some observations, to test those I had already taken in passing before. Mr. Forrest was very attentive, and did all in his power to amuse me; but feeling disposed to sleep, I lay down, and after a short time awoke, with the feeling of having overslept myself. I jumped up to look at my pocket-chronometer, which, to be careful of, I had placed on the table. Lying near by it was a small silver watch, which I had not before observed, and my surprise was great to find that they both showed the same hour. I uttered my surprise aloud just as Mr

Forrest entered the room, and told me that he had found my watch altogether wrong, (it showed Greenwich time,) and he had set it for me. I could not help making an exclamation of astonishment. We stood looking at each other, and he appeared fully as surprised as I was, when I told him that he had changed my Greenwich time for that of Cowlitz, and had interrupted my series of observations. He thought it passing strange that I should prefer Greenwich time to that of Cowlitz, and told me that he was sure his watch was right, for it kept time with the sun exactly! This incident, though sufficiently provoking at the time, afforded me much amusement after it was over, and was a lesson to me never to trust a chronometer to such an accident again.

It having partially cleared up the next morning, I set off, accompanied by Plumondon, his wife and child, and another settler as my guide. We departed at eight o'clock, and being provided with good horses, made rapid progress. By the advice of Mr. Forrest, I endeavoured to take a canoe on the Chickeeles, sending the horses to meet us, without loads, over the mountain.

We rode up to the Indian lodges, near the Chickeeles river, in order to engage some of them to accompany us. I have before spoken of making a bargain with them, and of the time and patience necessary before any thing can be accomplished. I now saw that it was a hopeless task to attempt to overcome their perfect nonchalance. Time, haste, clothes, presents, are nothing to them; rum is the only thing that will move them at all times, and of this I had none, nor should I have made use of it if I had. When Plumondon had exhausted his words on them without effect, we rode off, succeeded in passing the mountain road quickly, and were well satisfied that we had thus shown our independence.

I have noticed the excessive love that the whole Indian population seem to have for rum: many of these poor creatures would labour for days, and submit to all sorts of fatigue, for the sake of a small quantity. No other inducement will move them in the salmon and cammass seasons, for then they have nothing more to desire.

Towards night we encamped on a small prairie, where the grasses, flowers, and trees, were in every variety of bloom.

The Indians on the Chickeeles river were engaged in the salmon-fishery. This is effected by staking the river across with poles, and constructing fikes or fish-holes, through which the fish are obliged to pass. Over these are erected triangles to support a staging, on which the Indians stand, with nets and spears, and take the fish as they attempt to pass through: the fish are then dried by smoking, and prepared for future use. The smoked fish are packed in baskets; but the supply is far short of their wants.

The next morning we set out early, and reached the opposite bank of Shute's river. On the following day before noon, I returned to Nisqually, fully as much enchanted with the beautiful park scenery as when I passed it before. To it was now added occasional peeps of Mount Rainier's high and snowy peak.

OLD MISSION-HOUSE, OREGON.

# CHAPTER XI.

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## CHAPTER XI.

## WALLAWALLA.

### 1841.

On my return to Nisqually, I found that news had been received from the various surveying and exploring parties, all of which it was reported were advancing rapidly in the execution of their duties. The preparations for the scientific operations, which had been left to the charge of Lieutenant Carr, were all completed, and the two log houses had been built, in which we now began to perform the pendulum experiments, and make astronomic observations. In these we were engaged until the 4th of July. As the details of them will be given in another place, I shall only advert here to the operations which I had entrusted to Mr. Drayton, and which will form the subject of the present chapter.

It was stated in the preceding chapter, that through Mr. Ogden's kindness, a passage was offered up the Columbia river as far as Wallawalla. It had been my original intention to despatch a party from the Peacock in this direction, to cross the Rocky Mountains to the head waters of Yellowstone river; and I had engaged a Mr. Rogers to accompany it. Orders for the purpose had been prepared, and left to be delivered to Captain Hudson when he should arrive.

I now, however, began to apprehend that some serious accident had happened to that vessel, and I deemed it important to secure at all events, the examination of so interesting a part of this country, particularly when it could be performed under such favourable circumstances as those offered by Mr. Ogden. Mr. Drayton was therefore detached to make this jaunt, and to his industry and observation I am indebted for many of the facts about to be detailed. For others of them I have to acknowledge my obligation to the missionaries, and the officers of the Hudson Bay Company.

Previous to the departure of the brigade, Mr. Drayton had made many collections in natural history. After I left him, the weather continued very rainy for several days, and the Columbia in consequence began to rise again rapidly: the low prairies were overflowed, and the wheat in many places was injured. To show the porous nature of the soil, I will mention that the well at Vancouver rises and falls with the river, although it is a quarter of a mile from the bank. This is not the case in any other place in the territory where wells are sunk; but I have little doubt the same thing would occur on any of the low prairies of the Columbia, for the soil of all of them seems very similar. At Vancouver they use the river in preference to the well-water, though they do not consider the latter as unwholesome.

Mr. Drayton obtained in the mill-pond, specimens of a beautiful spotted trout, which is abundant there. They take the bait readily, and were caught with pieces of dried salmon: they feed upon insects, and small white moths are their favourite bait, at which they are seen to spring most greedily.

Until the 26th, repairs were making to the boats, and preparations were going on for embarking the goods. The shape of these boats has been before described: they have great strength and buoyancy, carry three tons weight, and have a crew of eight men, besides a padroon: they are thirty feet long and five and a half feet beam, sharp at both ends, clinker-built, and have no knees. In building them, flat timbers of oak are bent to the requisite shape by steaming; they are bolted to a flat keel, at distances of a foot from each other: the planks are of cedar, and generally extend the whole length of the boat. The gunwale is of the same kind of wood, but the rowlocks are of birch. The peculiarity in the construction of these boats is, that they are only riveted at each end with a strong rivet, and being well gummed, they have no occasion for nailing. They answer, and indeed are admirably adapted to, all the purposes for which they are intended; are so light as to be easily transported over the portages by their crews, and in case of accident are easily repaired.

The goods embarked for the supply of the northern posts are all done up carefully in bales of ninety pounds each, and consist of groceries, clothing, flour, powder, bullets, &c. It may readily be imagined that the different packages vary very materially in size, from a few inches square to two feet. This equal division of the weight is necessary, in consequence of the numerous portages they have to make, as well as convenient in forming packs for horses, which they take at

Okonagan for a journey to Thompson river, which takes twenty days to accomplish.

Mr. Ogden is generally six months of every year travelling to and from his post on the south end of Stuart's Lake, called Fort St. James, in latitude 54° N. He leaves it early in the spring, and returns in the fall of each year. Before he departs, he fits out his summer trappers, and on his return those for the winter's campaign. He brings down with him the produce of a year's hunting. This post is the most profitable of all the sections west of the mountains. The average cost of a beaver-skin is about twenty-five cents, and when it reaches Vancouver it has enhanced in price to two dollars and fifty cents. The amount of furs brought down by Mr. Ogden yearly will net in London £50,000, a fact which will give some idea of the value of this trade.

In setting out on his journey, Mr. Ogden's practice, as well as that of all the Company's parties, is to go only a few miles the first day, in order that they may discover if any thing has been neglected, and be able to return for it. For this reason their first encampment was at the saw-mill. Their brigade consisted of nine boats, rowed by sixty voyageurs, eight of whom had their Indian wives with them. Besides these were Mr. and Mrs. M'Kinley, (Mr. Ogden's son-in-law,) who was to take charge of the Wallawalla Fort, and a Mr. Cameron, also of the Company, who was on his way to Mr. Black's station. The boats take each sixty packages, excepting the trader, which is Mr. Ogden's own boat, and carries only forty. The boatmen are Canadians, excepting about one-fourth, who are Iroquois Indians, all strong, active, and hardy men. They are provided only with a square sail, as the wind blows generally either directly up or down the river.

On the 27th June, they were off at early dawn, took their breakfast at Prairie du Thé, and reached the Company's fishery, at the Cascades, at 6 P. M., where they encamped. This is the head of ship navigation, where the river takes a turn northward, and for upwards of two miles is comparatively narrow—four hundred and fifty yards wide. It falls in this distance about forty feet, and the whole body of water drives through this narrow channel with great impetuosity, forming high waves and fearful whirlpools, too dangerous to be encountered by any boat. When the river is low, these rapids are sometimes passed by skilful boatmen, but there have been many lives lost in the attempt.

The country bordering on the river is low until the Cascades are approached, with the exception of several high basaltic bluffs. Some of them are two hundred feet high, pointed like turreted castles.

An old Indian, called Slyboots, made his call upon Mr. Ogden for his annual present, consisting of some tobacco and a shirt. This present is made in consequence of his once having preserved Mr. Ogden's party from an attack, by giving information that it was to take place. By this timely notice Mr. Ogden was enabled to guard himself and party, by taking refuge upon a small island just above the Cascades.

The Columbia, at this part, passes through the Cascade range of mountains, between high and rocky banks. The geological character of this range is basaltic lava, basaltic conglomerate, and sandstone. Large quantities of petrified wood are to be found in the neighbourhood. Mr. Drayton obtained specimens of all of these.

The river, thus far, is navigated by seeking out the eddies. The great difficulty is found in doubling the points, which are at times impassable, except by tracking and poling. The oars are used after the French or Spanish fashion, adding the whole weight of the body to the strength of arm.

At the Cascades, during the fishing season, there are about three hundred Indians, only about one-tenth of whom are residents: they occupy three lodges; but there was formerly a large town here. Great quantities of fish are taken by them; and the manner of doing this resembles that at the Willamette Falls. They also construct canals, on a line parallel with the shore, with rocks and stones, for about fifty feet in length, through which the fish pass in order to avoid the strong current, and are here taken in great numbers.

There are two portages here, under the names of the new and the old. At the first, only half of the load is landed, and the boats are tracked up for half a mile further, when the load is again shipped. The boats are then tracked to the old portage. A strong eddy occurs at this place, which runs in an opposite direction; and here it is necessary to land the whole of the cargo; after which, the empty boats are again tracked three quarters of a mile beyond.

To a stranger, unacquainted with the navigation of this river, the management of these boatmen becomes a source of wonder; for it is surprising how they can succeed in surmounting such rapids at all as the Cascades. Their mode of transporting the goods, and the facilities with which they do it, are equally novel. The load is secured on the back of a voyageur by a band which passes round the forehead and under and over the bale; he squats down, adjusts his load, and rises with ninety pounds on his back; another places ninety pounds more on the top, and off he trots, half bent, to the end of the portage. One of the gentlemen of the Company informed me, that he had seen a voyageur carry six packages of ninety pounds each on his back (five hundred and forty pounds); but it was for a wager, and the distance was not more than one hundred yards. The voyageurs in general have not the appearance of being very strong men. At these portages, the Indians assist for a small present of tobacco. The boats seldom escape injury in passing; and in consequence of that which they received on this occasion, the party was detained the rest of the day repairing damages.

On their starting next morning, they found that the boats leaked; and put on shore again to gum them. This operation, Mr. Drayton describes thus. On landing the goods, the boats are tracked up and turned bottom up, when they are suffered to dry; two flat-sided pieces of fire-wood, about two feet long, are then laid together, and put into the fire, until both are well lighted, and the wood burns readily at one end and in the space between; they then draw the lighted end slowly along the gummed seam, blowing at the same time between the sticks: this melts the gum, and a small spatula is used to smooth it off and render the seam quite tight. The common gum of the pine or hemlock is that used; and a supply is always carried with them.

A short distance above the Cascades, they passed the locality of the sunken forest, which was at the time entirely submerged. Mr. Drayton, on his return, visited the place, and the water had fallen so much as to expose the stumps to view: they were of pine, and quite rotten, so much so that they broke when they were taken hold of. He is of opinion that the point on which the pine forest stands, has been undermined by the great currents during the freshets; and that it has sunk bodily down until the trees were entirely submerged. The whole mass appears to be so matted together by the roots as to prevent their separation. Changes, by the same undermining process, were observed to be going on continually in other parts of the river.

On the 30th of June, they had a favourable wind, but it blew so hard that they were obliged to reef their sail, and afterwards found the waves and wind too heavy for them to run without great danger; they in consequence put on shore to wait until it abated. In these forty miles of the river, it usually blows a gale from the westward in the summer season, almost daily.

In the evening, they reached within seven miles of the Dalles, and four below the mission. Here the roar of the water at the Dalles was heard distinctly.

The country had now assumed a different aspect; the trees began to decrease in number, and the land to look dry and burnt up. Before pitching their tents, the men were beating about the bushes to drive away the rattlesnakes, a number of which were killed, and preserved as specimens.

In the morning they were again on their route, and reached Little river, from which the station of the Methodist Mission is three-fourths of a mile distant. Here they were met by Mr. Perkins, who was waiting for his letters and some packages of goods the brigade had brought. Mr. Drayton accompanied Mr. Perkins to the mission, while the brigade moved on towards the Dalles. Mr. Daniel Lee, the principal of the mission, was found near the house, reaping his wheat.

At this station there are three families, those of the Rev. Mr. Lee, Mr. Perkins, and a lay member, who is a farmer. Their reception of Mr. Drayton was exceedingly kind.

The mission consists of two log and board houses, hewn, sawed, and built by themselves, with a small barn, and several out-houses. The buildings are situated on high ground, among scattered oaks, and immediately in the rear is an extensive wood of oaks and pines, with numerous sharp and jagged knolls and obelisk-looking pillars of conglomerate, interspersed among basaltic rocks: in front is an alluvial plain, having a gradual descent towards the river, and extending to the right and left. This contains about two thousand acres of good land, well supplied with springs, with Little river, and other smaller streams passing through it. The soil is made up of decomposed conglomerate, and in places shows a deep black loam. Around this tract the land is high, devoid of moisture, and covered with basaltic rocks or sand.

They here raise wheat and potatoes by irrigation: the latter grow in great perfection, and wheat yields twenty to thirty bushels to the acre. They had just gathered a crop of two hundred bushels from land which they irrigate by means of several fine streams near their houses. They might raise much more, if they were disposed. The summers here are much hotter than at Vancouver, and consequently drier; the spring rains cease here earlier, and the people harvest in June.

There are only a few Indians residing near the mission during the winter, and these are a very miserable set, who live in holes in the ground, not unlike a clay oven, in order to keep warm. They are too lazy to cut wood for their fires. The number that visit the Dalles during the fishing season, is about fifteen hundred: these are from all the country round, and are generally the outlawed of the different villages. The missionaries complain much of the insolent behaviour and of the thieving habits, both of the visiters, and those who reside permanently at the falls. They are, therefore, very desirous of having a few settlers near, that they may have some protection from this annoyance, as they are frequently under apprehension that their lives will be taken.

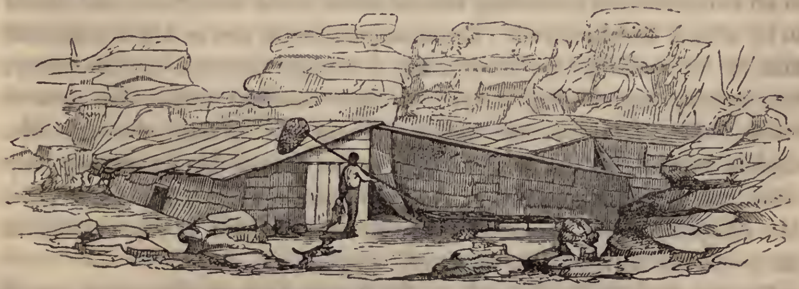
It is not to be expected that the missionaries could be able to make much progress with such a set, and they of course feel somewhat discouraged, though they have succeeded in obtaining a moral influence over a few.

The river, between the Cascades and the Dalles, a distance of forty miles, has no rapids, and is navigable for vessels drawing twelve feet of water. It passes through high rocky banks of basalt.

The missionaries informed Mr. Drayton, that the salmon-fishery at the Dalles lasts six months, and that sturgeon are taken during the greater part of the year.

The mission is three miles from the Dalles. On Mr. Drayton reaching the lower point of the portage, he found Mr. Ogden encamped, and a boat-load of packages spread out to dry. It appeared that one of the boats had bilged in passing up, and required repairs. The place was luckily fitted for these operations, as it had but one entrance to protect against about a thousand Indians, on the look-out for whatever they could pick up, and who required the whole force of the brigade to keep them in check.

The Dalles is appropriately called the Billingsgate of Oregon. The diversity of dress among the men was greater even than in the crowds of natives I have described as seen in the Polynesian islands; but they lack the decency and care of their persons which the islanders exhibit. The women also go nearly naked, for they wear little else than what may be termed a breech-cloth, of buckskin, which is black and filthy with dirt; and some have a part of a blanket. The children go entirely naked, the boys wearing nothing but a small string round the body. It is only necessary to say that some forty or fifty live in a temporary hut, twenty feet by twelve, constructed of poles, mats, and cedar bark, to give an idea of the degree of their civilization.



FISHING-HUTS AT THE DALLES.

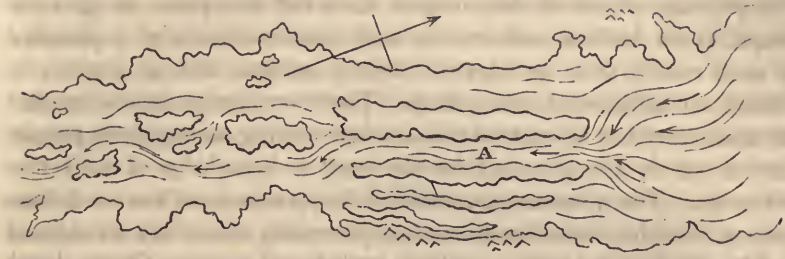
The men are engaged in fishing, and do nothing else. On the women falls all the work of skinning, cleaning, and drying the fish for their winter stores. As soon as the fish are caught, they are laid for a few hours on the rocks, in the hot sun, which permits the skins to be taken off with greater ease; the flesh is then stripped off the bones, mashed and pounded as fine as possible; it is then spread out on mats, and placed upon frames to dry in the sun and wind, which effectually cures it; indeed, it is said that meat of any kind dried in this climate never becomes putrid. Three or four days are sufficient to dry a large matfull, four inches deep. The cured fish is then pounded into a long basket, which will contain about eighty pounds; put up in this way, if kept dry, it will keep for three years.

During the fishing season, the Indians live entirely on the heads, hearts, and offal of the salmon, which they string on sticks, and roast over a small fire.

The fishing here is very much after the manner of that at Willamette Falls, except that there is no necessity for planks to stand on, as there are great conveniences at the Dalles for pursuing this fishery. They use the hooks and spears, attached to long poles: both the hook and the spear are made to unship readily, and are attached to the pole by a line four feet below its upper end. If the hook were made permanently fast to the end of the pole, it would be liable to break, and the large fish would be much more difficult to take. The Indians are seen standing along the walls of the canals in great numbers, fishing, and it is not uncommon for them to take twenty to twenty-five salmon in an hour. When the river is at its greatest height, the water in the canals is about three feet below the top of the bank.

The Dalles is one of the most remarkable places upon the Columbia. The river is here compressed into a narrow channel, three hundred feet wide, and half a mile long; the walls are perpendicular, flat on the top, and composed of basalt; the river forms an elbow, being situated in an amphitheatre, extending several miles to the northwest, and closed in by a high basaltic wall. From appearances, one is led to conclude that in former times the river made a straight course over the whole; but, having the channel deeper, is now confined within the present limits. Mr. Drayton, on inquiry of an old Indian, through Mr. Ogden, learned that he believed that in the time of his forefathers they went up straight in their canoes. In order to illustrate this pass, Mr. Drayton made a careful diagram of it, which is represented in the wood-cut on the following page.

Besides the main channel, A, there are four or five other small canals, through which the water passes when the river is high: these are but a few feet across. The river falls about fifty feet in the distance of two miles, and the greatest rise between high and low water mark, is sixty-two feet. This great rise is caused by the accumulation of water in the river above, which is dammed by this narrow pass, and is constantly increasing, until it backs the waters, and overflows many low grounds and islands above. The tremendous roar arising from the rushing of the river through this outlet, with the many whirlpools and eddies which it causes, may be more readily imagined than described.



The boat was repaired by the afternoon, and an express was despatched up the river to Wallawalla, in order to prepare the post for the reception of the brigade, and inform the gentleman who had charge of it that he would be required to move to the north with the brigade. The officers of the Company have but little time allowed them to attend to their comforts: so completely are they under the control of accident, that they are liable to be called upon at any moment. Their rights, however, are looked to as much as possible, and the great principle adopted as the incentive to action, is the advancement they may obtain by their own merit, through which alone they can get forward. In consequence of adhering to this principle, the Hudson Bay Company are always well served. The discipline that is preserved is the very best, and sits lightly upon all. Those who do not meet with advancement have some great fault in a trader's eyes. The enterprise and energy required to serve this Company well is of no ordinary kind, and few men exhibit more of both these qualities than those I met with in its employ.

On the morning of the 4th July, they began to pass the portage, which is a mile in length. It is very rugged, and the weather being exceedingly warm, many of the Indians were employed to transport articles on their horses, of which they have a large number. It required seventy men to transport the boats, which were carried over bottom upwards, the gunwale resting on the men's shoulders. By night all was safely transported, the boats newly gummed, and the encampment formed on a sandy beach. The sand, in consequence of the high wind, was blown about in great quantities, and every body and thing was literally covered with it.

From the high hills on the southern bank of the river, there is an extensive view of the country to the south. The distant part of this prospect was made up of rolling, barren, and arid hills. These hills, as well as the country nearer at hand, were covered with a natural hay or bunch-grass, which affords very nutritious food for cattle.

The missionaries have been stationed at the Dalles since 1838. The primary object of this mission is, in the first place, to give the Gospel to the Indians, and next to teach them such arts of civilization as shall enable them to improve their condition, and by degrees to become an enlightened community. There are many difficulties that the missionary has to contend with, in first coming among these people, none of which are greater than the want of knowledge of their true character. The missionaries, after a full opportunity of knowing these Indians, consider covetousness as their prevailing sin, which is exhibited in lying, dishonest traffic, gambling, and horse-racing. Of the latter they are extremely fond, and are continually desirous of engaging in it. This sport frequently produces contentions, which often end in bloodshed. Stealing prevails to an alarming extent: scarcely any thing that can be removed is safe. The missionaries have several times had their houses broken open, and their property more or less damaged. The stealing of horses in particular is very common, but after being broken down they are sometimes returned. There are but few chiefs to whom the appeal for redress can be made, and they can exercise but little control over such a lawless crew. Those who gather here are generally the very worst of the tribes around.

The number of Indians within the Dalles mission is reckoned at about two thousand; in but few of these, however, has any symptom of reform shown itself. They frequent the three great salmon-fisheries of the Columbia, the Dalles, Cascades, and Chutes, and a few were found at a salmon-fishery about twenty-five miles up the Chutes river.

The season for fishing salmon, which is the chief article of food in this country, lasts during five months, from May to September. The country also furnishes quantities of berries, nuts, roots, and game, consisting of bears, elk, and deer; but, owing to the improvidence of the native inhabitants, they are, notwithstanding this ample supply of articles of food, oftentimes on the verge of starvation.

After the fishing and trading season is over, they retire to their villages, and pass the rest of the year in inactivity, consuming the food supplied by the labours of the preceding summer; and as the season for fishing comes round, they again resort to the fisheries. This is the ordinary course of life among these Indians, whose dissipation has been already spoken of, and will claim more attention hereafter.

Here again some others demanded their annual token from the brigade for past services.

The country about the Dalles is broken, and the missionaries report that this is the case for some miles around. There are, however, also some plains and table-lands, which are considered as very valuable, being well watered with springs and small streams; excellent for grazing, and well supplied with timber—oak and pine. The soil varies in quality, and portions of it are very rich. Garden vegetables succeed, but require irrigation. Potatoes also must be watered, by which mode of culture they succeed well. Corn and peas can be raised in sufficient quantities. Wheat produces about twenty-five bushels to the acre: this is not, however, on the best land. They sow in October and March, and harvest begins towards the end of June.

The climate is considered healthy; the atmosphere is dry, and there are no dews. From May till November but little rain falls, but in winter they have much rain and snow. The cold is seldom great, although during the winter preceding our arrival the thermometer fell to —18° Fahrenheit. The greatest heat experienced in summer was 100° in the shade; but, even after the hottest days, the nights are cool and pleasant.

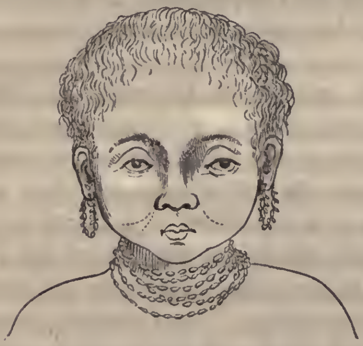
At daylight, on the 3d July, the goods were all embarked. When they reached the Chutes, they again made a portage of their goods for a quarter of a mile, and in an hour and a half they were again on their way. During very high water, the fall, whence the place takes its name, is not visible, but when it is low, there is a fall of ten feet perpendicular, that occupies nearly the whole breadth of the river. It is impossible to pass this fall at low water; but when the river is swollen, boats shoot it with ease and safety. The Columbia, from the Chutes as far as John Day's river, is filled with rocks, which occasion dangerous rapids. The boats were, in consequence, tracked for the whole distance.

After passing the Dalles, an entirely new description of country is entered, for the line of woods extends no farther. The last tree stands on the south side of the river, and is named Ogden's Tree on our map: it is about six miles above the Dalles. The woods terminate at about the same distance from the coast in all parts of this region south of the parallel of 48° N.

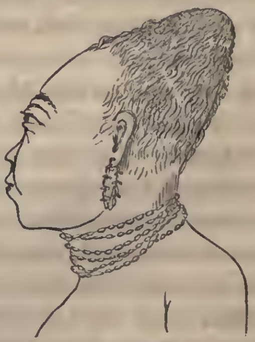
The country between these places is decidedly volcanic, and the banks on either side of the river are rocky and high. In this part of the country, it is very hot when there is no wind. Mr. Drayton had no thermometer, and therefore was unable to ascertain the exact degree of heat, but any metallic substance exposed to the sun for a short time could not be grasped in the hand without pain, and the men were almost exhausted with the heat.

There are a number of villages in this neighbourhood, and among them Wisham, mentioned in Irving's Astoria. This is situated on the left bank of the river, and its proper name is Niculuita; Wisham being the name of the old chief, long since dead. There are now in this village about forty good lodges, built of split boards, with a roof of cedar bark, as before described. The Indians that live here seem much superior to those of the other villages; they number four hundred regular inhabitants, who live, like the rest, upon salmon; but they appeared to have more comforts about them than any we had yet seen.

At Niculuita Mr. Drayton obtained a drawing of a child's head that had just been released from its bandages, in order to secure its flattened head. Both the parents showed great delight at the success they had met with in effecting this distortion. The wood-cuts give a correct idea of the child's appearance.



FRONT VIEW.



SIDE VIEW.

There were from fifty to one hundred Indians constantly following the brigade, and aiding the men. The price for half an hour's service was generally two leaves of tobacco, which was sought after with great eagerness. These Indians paint their faces with red and yellow clay. Their women seemed to be of more consequence than is usual among savages, and some of them even took command over the men.

At John Day's river great quantities of salmon are taken, and there are, in consequence, many temporary lodges here. Notwithstanding this is a rocky region, there are vast quantities of fine sand deposited every where, which is brought down the river. On this the encampments are necessarily made; and the sand is exceedingly dry and hot, which renders the camping disagreeable. There are few places more uncomfortable; for a basaltic wall rises nine hundred or a thousand feet within two hundred yards of the camp, which reflects the sun's rays down upon the beach of white sand, rendering the atmosphere almost insupportable. To give some idea of the heat, Mr. Drayton found it uncomfortably hot to sit down upon the rocks an hour after the sun had set.

One of their amusements at the time of encamping was a rattlesnake hunt, in which several large ones were killed.

The brigade, as usual, set out early, and with the sun there arose a fine breeze, which carried them briskly onwards. About eight miles above their encampment they came to the Hieroglyphic Rocks. These are about twenty feet high, and on them are supposed to be recorded the deeds of some former tribe. They passed so quickly that Mr. Drayton could make only two hasty sketches of them; and it is to be regretted that they were not sufficiently perfect to allow of their being given in this place.

After passing John Day's river, the country becomes much lower and more arid, and the current comparatively less. The weather was exceedingly hot, and the drifting sands were in greater quantities than before, so much so that whole islands were passed entirely composed of the sand. They now arrived at the long reach, just below Grand Island; the country becoming sandy and so flat as to give a view of the Grand Rapid Hills. It has the appearance of having been, at no very remote period, the bed of an extensive lake. Here the voyageurs began to be relieved from their toil at the pole, which they exchanged for the tow-line and oar, and the Indians departed the moment their services were no longer wanted. The distance made this day was fifty-seven miles, for which they were indebted to the breeze. The day before, they made only sixteen miles.

While passing close along the banks, they met with numerous pin-tailed grouse, so tame as to allow the boats to approach within a few feet of them before they would fly.

At their encampment, Mr. Drayton found a large burying-place, from which he was desirous of getting a skull; but, to the surprise of the party, several Indians made their appearance and prevented it. The corpses were placed above ground, in their clothing, and then sewed up in a skin or blanket; and the personal property of each deceased individual was placed near the body: over all were laid a few boards, of native construction, placed as a kind of shed to protect them from the weather.

All along this river, from the Dalles up, there is not a piece of wood growing, and except occasionally a drift log, there is nothing larger than a splinter to be found. All the wood used for cooking is bought from the Indians, who will follow the brigade for many miles with a long pole or piece of a log, which they sell for a small piece of tobacco. The Indians also brought for sale several hares, which were large and of extremely fine flavour.

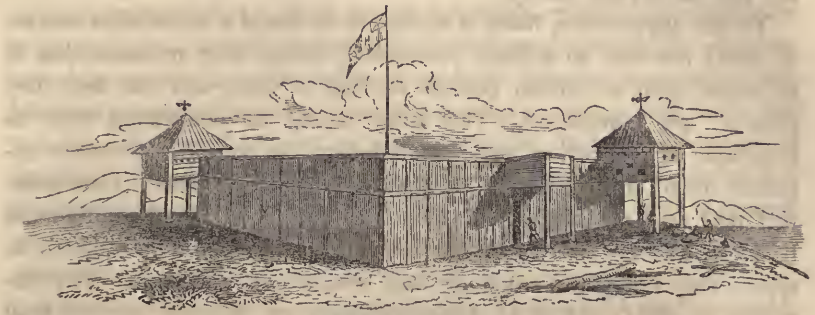
The country continues to be, as far as can be seen on every side, a barren and sterile waste, covered with a white sand mixed with rounded and washed pebbles. All that it produces is a little grass, some wood, and a species of small Cactus, filled with long white spines, so hard and sharp that if trodden upon they will penetrate the leather of a boot.

On the 6th of July the brigade reached the foot of the Grand Rapids, up which the boats were tracked. They afterwards passed along the foot of Grand Rapid Hills, which are composed of basalt, old lava, and scoriæ. These hills are steep on the river side, and are fast crumbling away and falling into the stream.

Eighteen miles below Wallawalla they passed the Windmill Rock, about which are a number of curious basaltic peaks. On approaching Wallawalla the scenery becomes grand: the country is broken into volcanic peaks, forming many fantastic shapes, resembling figures and colossal heads: many of them are seen either insulated or in groups; some of them are known under the name of the Nine-pins. Through this pass of volcanic rocks the wind rushes with great violence in summer, to supply the rarefied portion above. The current had increased very considerably: it often became necessary for the voyageurs to take a pipe, or in other words, a rest. When the brigade was in sight from the fort, the Company's flag was hoisted. Before arriving there, and within a mile and a half of it, the country becomes again flat, and rises very little above the river, when the water is high. The ground is composed of pebbles and drifting sand for several miles to the east and to the north, with little or no soil, and nothing grows on it but a few spears of bunch-grass, and wormwood.

The brigade reached the fort at sunset, when they were received by Mr. M'Lean, who was in temporary charge of the post: and who reported himself ready to proceed with his Indian wife and children with Mr. Ogden: and Mr. M'Kinley took charge of Fort Wallawalla.

Fort Wallawalla is about two hundred feet square, and is built of pickets, with a gallery or staging on the inside, whence the pickets may be looked over. It has two bastions, one on the southwest and the other on the northeast. On the inside are several buildings, constructed of logs and mud; one of these is the Indian store: the whole is covered with sand and dust, which is blown about in vast quantities. The climate is hot; and every thing about the fort seemed so dry, that it appeared as if a single spark would ignite the whole and reduce it to ashes.


FORT WALLAWALLA.

The party under Lieutenant Johnson had passed by about a week previously, on their return to Nisqually.

At all the principal stopping-places, one or two old Indians would present themselves to Mr. Ogden, to demand their annual present for services rendered him and the Company.

Many years back, Mr. Ogden, while on his route, was attacked at the place where the fort stands, by the Wallawalla tribe, and was obliged to take refuge on the island near the fort, where he made a stand and completely routed the Indians. This occurrence took place twenty-three years before, and was the cause of this post being occupied; since which time, no attack has been made.

This will give some idea of the dangers the officers and men of the Hudson Bay Company have to encounter; and although it is now safe on the Columbia river, yet there are many parts where they are still subject to these attacks: the voyageurs have a lot of toil and deprivation, yet few men are to be found so cheerful.

Mr. Ogden informed me, that the most experienced voyageur is taken as a pilot for the brigade, and he is the bowman of the leading boat; which is looked upon as a station of great trust and honour. Each boat has also its bowman, who is considered the first officer and responsible man; the safety of the boat, in descending rapids particularly, depends upon him and the padroon, who steers the boat. They both use long and large blade-paddles; and it is surprising how much power the two can exert over the direction of the boat. These men, from long training, become very expert, and acquire a coolness and disregard of danger that claim admiration, and astonishes those who are unused to such scenes.

To all appearance, there is seldom to be found a more laborious set of men; nor one so willing, particularly when their remuneration of no more than seventeen pounds sterling a year, and the fare they receive, are considered. The latter would be considered with us incapable of supporting any human being. It consists of coarse unbolted bread, dried salmon, fat (tallow), and dried peas. I am satisfied that no American would submit to such food: the Canadian and Iroquois Indians use it without murmuring, except to strangers, to whom they complain much of their scanty pay and food. The discipline is strict, and of an arbitrary kind; yet they do not find fault with it. In Appendix XV., will be found one of the agreements of the Hudson Bay Company. Very few of those who embark or join this Company's service ever leave the part of the country they have been employed in; for after the expiration of the first five years, they usually enlist for three more. This service of eight years in a life of so much adventure and hazard, attaches them to it, and they generally continue until they become old men; when, being married, and having families by Indian women, they retire under the auspices of the Company, to some small farm, either on the Red or Columbia rivers. There is no allowance stipulated for their wives or children; but one is usually made, if they have been useful. If a man dies, leaving a family, although the Company is not under any obligation to provide for them, they are generally taken care of. The officers of the Company are particularly strict in preventing its servants from deserting their wives; and none can abandon them without much secresy and cunning. In cases of this sort, the individual is arrested and kept under restraint until he binds himself with security not to desert his family. The chief officers of the Company hold the power of magistrates over their own people; and are bound to send fugitives or criminals back to Canada for trial, where the courts take cognizance of the offences. This perhaps is as salutary and effectual a preventive against crime, as could be found, even if the courts were at hand; for whether innocent or guilty, the individual must suffer great loss by being dragged from the little property he possesses. The community of old voyageurs, settled in Oregon, are thus constrained to keep a strict watch upon their behaviour; and, although perhaps against their inclinations, are obliged to conform to the wishes of those whose employ they have left.

The brigade, after remaining at Wallawalla till the 8th, took their departure. In taking leave of Mr. Ogden, I must express the great indebtedness I am under, for his attentions and kindness to Mr. Drayton, as well as for the facility he offered him for obtaining information during their progress up the Columbia. I am also under obligations to him for much interesting information respecting this country, which he gave without hesitation or reserve. He was anxious that Mr. Drayton should accompany him to Okonagan; but as this route had just been traversed by another party, it would have been a waste of the short time he had to spend about Wallawalla. Mr. Ogden is a general favourite; and there is so much hilarity, and such a fund of amusement about him, that one is extremely fortunate to fall into his company.

After the departure of the brigade, Mr. Drayton set out to visit Dr. Whitman, in company with Mr. M'Lean, who was to proceed to Okonagan with horses, to join Mr. Ogden. They rode about twenty miles before dark, and passed over some of the pastures of the horses belonging to the Company. An alluvial bank, one hundred feet in height, was pointed out, over which the wolves had driven part of a band of the horses of the Company, by surrounding them just before dark. This took place some months before, and the horses were killed and eaten by these voracious animals. The wolves are very numerous in this country, and exceedingly troublesome.

The country passed over on the banks of the Wallawalla, and within half a mile of it, was green and fertile. This will also apply to the banks of the small tributaries falling into the Wallawalla. To the north and south are extensive prairies, covered with the natural hay of the country, on which the cattle feed; here these grasses spring up in the early spring rains, grow luxuriantly, and are afterwards converted into hay, by the great heat of the month of July. Thus dried, they retain all their juices. Of this hay the cattle are exceedingly fond, and prefer it even to the young grass of the meadows bordering the stream.

The party reached the mission about dark, and were welcomed by Dr. Whitman and Mr. and Mrs. Gray, of the American Board of Missions. This station was established in 1837, with three others, and is known by the name of Waiilaptu. The second station, called Lapwai (clear water), is at the mouth of the Kooskooskee, under the Rev. Mr. Spalding. The third was about sixty miles up that river, and was called Kamia, where the Rev. Mr. Smith was stationed for two years; finding, however, that he had no Indians to teach, or within reach of his station, he abandoned it. The fourth, called Chimikaine, is near the river Spokane, under the direction of Messrs. Eels and Walker, sixty miles south of Colville.

At Waiilaptu there are two houses, each of one story, built of adobes, with mud roofs, to insure a cooler habitation in summer. There are also a small saw-mill and some grist-mills at this place, moved by water. All the premises look very comfortable. They have a fine kitchen-garden, in which grow all the vegetables raised in the United States, and several kinds of fine melons. The wheat, some of which stood seven feet high, was in full head, and nearly ripe; Indian corn was in tassel, and some of it measured nine feet in height. They will reap this year about three hundred bushels of wheat, with a quantity of corn and potatoes. The soil, in the vicinity of the small streams, is a rich black loam, and very deep. The land fit for cultivation along these streams does not, however, amount to more than ten thousand acres. This quantity is susceptible of irrigation, and in consequence can be made to yield most luxuriant crops. In many parts of it, a natural irrigation seems to take place, owing to the numerous bends of the small streams, which almost convert portions of the land into islands. These streams take their rise in the Blue Mountains, about forty miles east of Wallawalla, and are never known to fail. The climate is very dry, as it seldom rains for seven or eight months in the year. During the greater part of this time, the country, forty miles north and south of this strip, has an arid appearance. There are large herds of horses owned by the Indians, that find excellent pasturage in the natural hay on its surface.

There is a vast quantity and profusion of edible berries on the banks of the streams above spoken of, consisting of the service-berry, two kinds of currants, whortleberry, and wild gooseberries: these the Indians gather in large quantities, for their winter supplies.

At the time of Mr. Drayton's visit, there were at the mission only fourteen Indians, including men, women, and children. Those who usually reside here had gone to the Grande Ronde to trade, a distance of twenty-five miles.

The Grande Ronde is a plain or mountain prairie, surrounded by high basaltic walls. This is called by the Indians, "Karpkarp," which is translated into Balm of Gilead. Its direction from Wallawalla is east-southeast, and the road to the United States passes through it. It is fifteen miles long, by twelve wide; and is the place where the Cayuse, Nez Percé, and Wallawalla Indians meet to trade with the Snakes or Shoshones, for roots, skin lodges, elk and buffalo meat, in exchange for salmon and horses.

Mr. Drayton met with an old Indian at Waiilaptu, who was pointed out as the man who took the first flag that was ever seen in the country to the Grande Ronde, as the emblem of peace. Lewis and Clarke, when in this country, presented an American flag to the Cayuse tribe, calling it a flag of peace; this tribe, in alliance with the Wallawallas, had up to that time been always at war with the Shoshones or Snakes. After it became known among the Snakes that such a flag existed, a party of Cayuse and Wallawallas took the flag and planted it at the Grande Ronde, the old man above spoken of being the bearer. The result has been, that these two tribes have ever since been at peace with the Snakes, and all three have met annually in this place to trade. Dr. Whitman confirmed the old man's statement from other evidence he had received. The Grande Ronde is likewise resorted to for the large quantities of cammass-root that grow there, which constitutes, as I have before remarked, a favourite food with all the Indians.

These missionaries live quite comfortably, and seem contented; they are, however, not free from apprehension of Indian depredations. Dr. Whitman, being an unusually large and athletic man, is held in much respect by the Indians, and they have made use of his services as a physician, which does not seem to carry with it so much danger here, as among the tribes in the lower country, or farther north.

These missionaries have quite a number of cattle and horses, which require little or no attention, there being an abundance of hay and grass. The price of a good horse is twenty dollars.

This district is capable of supporting a vast number of cattle. One Cayuse chief has more than a thousand horses on these feeding grounds.

The winters are of about three months' duration, and snow lasts only a short time; the grass indeed grows all winter. A better idea of the climate here may be formed from the fact, that Mr. M'Kinley, of the Hudson Bay Company, who passed from the Snake country across the Blue Mountains in January, 1841, found the snow on the mountains five and six feet deep, and the weather very cold; but when he descended to these plains the next day, the weather was warm and pleasant, the grass green, and many flowers in bloom.

On the Wallawalla river trees are again met with: they consist of the poplar, willow, birch, and alder. The poplar grows to the height of one hundred feet, and has a diameter near the base of two and a half feet.

As respects the success of the missionary labours, it is very small here. The Indians are disposed to wander, and seldom continue more than three or four months in the same place. After they return from the Grande Ronde, which is in July, they remain for three or four months, and then move off to the north and east to hunt buffalo. After their return from the buffalo-hunt, they are again stationary for a short time.

Dr. Whitman has one hundred and twenty-four on his rolls, male and female, that receive instruction in the course of the year. He preaches to them on the Sabbath, when the Indians are on the Wallawalla river.

The school consists of about twenty-five scholars daily, and there appears some little disposition to improve in these Indians. The great aim of the missionaries is to teach them that they may obtain a sufficient quantity of food by cultivating the ground. Many families of Indians now have patches of wheat, corn, and potatoes, growing well, and a number of these are to be seen near the Mission farm.

The Indians have learned the necessity of irrigating their crops, by finding that Dr. Whitman's succeeded better than their own. They therefore desired to take some of the water from his trenches instead of making new ones of their own, which he very naturally refused. They then dug trenches for themselves, and stopped up the Doctor's. This had well-nigh produced much difficulty; but finally they were made to understand that there was enough water for both, and they now use it with as much success as the missionaries.

There is much small game in this part of the country, which is easily obtained with a gun, or by snares. The most numerous are the grouse, curlew, and two species of hare.

In company with Mr. Gray, Mr. Drayton visited the Blue Mountains. Before reaching the foot of the mountains, they passed through large bands of horses, belonging to the Cayuse Indians; the soil became better, being of a red colour, and formed of decomposed scoria. Much scoria is here seen in every direction, and the grass in such places, from receiving more moisture, is more luxuriant. Mr. Drayton ascended up as far as the snow-line, but had not the means of ascertaining his altitude; it was, however, from my observations, about five thousand six hundred feet. They here found the forest of pines, and the temperature was quite low. From this point the Wallawalla, with its numerous branches, could be seen threading its way through the plains beneath, to unite itself with the Columbia river, yet more distant.

They returned the next day to Fort Wallawalla.

There seems to be a peculiarity about the climate at Wallawalla, not readily to be accounted for. It has been stated above that little winter weather is experienced there, and that this mildness is owing to the hot winds of the south, which sweep along from the extensive sandy deserts existing in Upper California. This wind, or simoon, during the summer, is held in great dread in this part of the country, for it is of a burning character that is quite overpowering. It generally comes from the southwest. In consequence of this feature of the climate, there is very little vegetation near the fort, not only on account of the heat and dryness, but owing to the vast clouds of drifting sand, which are frequently so great as to darken the sky. In summer it blows here constantly, and at night the wind generally amounts to a gale. Mr. Drayton represents his situation in the northeast bastion of the fort as quite uncomfortable, from the fear of its being blown down.

The Indian mode of taking salmon was witnessed at this place. It consists in the erection of a fish-weir of basket-work, supported by poles. This is placed across the stream, in the form of an acute angle. This barrier dams the water sufficiently to create a little fall. The salmon swim up the river at night, and when they reach the barrier, they jump over the low side, which is down stream, but are unable to leap the higher one. A little before daylight, the Indians spread their nets, carefully avoiding to disturb the fish about the weir, and take all those that have been ensnared. These usually amount to about twenty-five.

Small parties of the Cayuse, Wallawallas, and Nez Percés, were now returning from the Grande Ronde. They occupied about thirty lodges, made of poles, mats, and skins, bought from the Shoshones. The wood-cut of these Indians' lodges will be found at the end of the chapter.

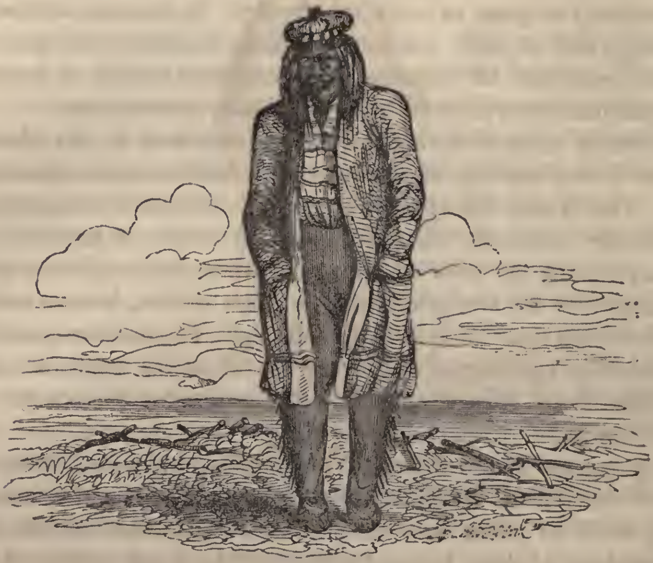
During the week, the Columbia had fallen ten feet. It is here one thousand yards wide, and the altitude of Fort Wallawalla above the sea is twelve hundred and eighty-six feet.

The proximity of these Indians afforded Mr. Drayton an opportunity of observing them, and having an Indian boy with him, who understood both their language and English, he had no difficulty in communicating with them.

The chief of the Wallawallas, who is called Puipui-Marmax (Yellow-Bird) and the Nez Percé chief Touwatui, (or Young Chief,) seemed intelligent and friendly, but the white residents consider them as great rogues. They were going to the Shaste country to trade for blankets, powder and ball, together with trinkets and beads, in exchange for their horses and beaver-skins.

The Company, and the settlers of the Willamette, refuse to trade either powder or ball in this country, and it is but a short time since the Indians have been able to obtain any. The reason assigned by the Company and residents for this restriction is, that the natives become quarrelsome and turbulent when they are provided with fire-arms. On these trips they are accompanied by about thirty warriors, well armed.

The men are usually clothed in blanket coats; but, notwithstanding this slight approximation to civilized habits, they have the air of the Indian, strongly marked, about them.



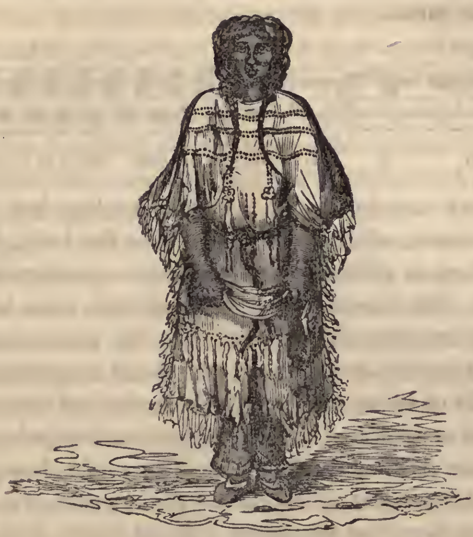
MALE COSTUME.

The number of Indians now collected was two hundred. The women were employed in drying salmon and the cammass-root. Some of them are employed in cooking, while others are engaged in dressing skins.

The mode of removing the hair from the skins, is with a round and broad chisel, fixed on a handle, like an adze: the skin, while yet green, is laid on a log or board, and the hair chopped off. The smoking process differs from that already described, at the Cowlitz. A large hole is dug in the ground, in which a fire is made; the skin is sewed on the inside of a bag, which is suspended immediately over the fire, so that little of the smoke can escape, and the process goes on rapidly. This process is necessary, otherwise it would, on becoming wet, and drying afterwards, be hard and stiff.

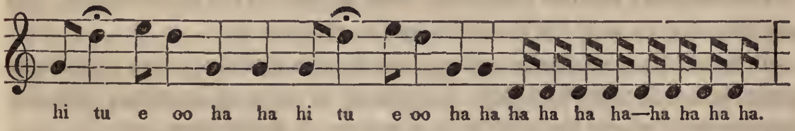
There were many children among these people. The young Indian women as well as the wives of the Company's servants, who have married half-breeds, invariably use a long board as a cradle, on which the child is strapped, and then hung up on a branch, or to the saddle.

When travelling, a hoop, bent over the head of the child, protects it from injury. The women are usually dressed in skins very much ornamented with beads.



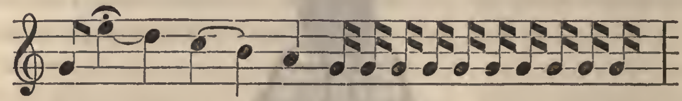
FEMALE COSTUME.

Mr. Drayton, during his stay, was attracted one day by the sound of beating sticks and a kind of unearthly singing, issuing from one of the lodges. On going to the lodge he found a boy, about eighteen years of age, lying on his back very ill, and in the last stage of disease. Over him stood a medicine-woman, an old haggard-looking squaw, under great excitement, singing as follows:



To which shout a dozen men and boys were beating time on the sticks, and singing a kind of bass or tenor accompaniment. The words made use of by the old squaw varied, and were any that would suit the case. She bent over the sick boy, and was constantly in motion, making all kinds of grimaces. She would bare his chest, and pretend by her actions to be scooping out his disease; then she would fall on her knees, and again strive to draw out the bad spirit with both hands, blowing into them, and, as it were, tossing the spirit into the air.

The evening of the same day, Mr. Drayton paid another visit to the same lodge, when he found the medicine-squaw much exhausted. She was blowing with her mouth on his neck downwards, making a quick sputtering noise, thus—



While she was uttering this, a man was holding her up by a rope tied round her waist, while she, bending over the body, began to suck his neck and chest in different parts, in order more effectually to extract the bad spirit. She would every now and then seem to obtain some of the disease, and then faint away. On the next morning she was still found sucking the boy's chest, and would frequently spit into her hand a mouthful of saliva and blood, which she had extracted from her own gums, and spread it with her finger over the palm of her hand, taking great care that all should see it. She would then pronounce the boy better, with apparent satisfaction. So powerful was the influence operated on the boy, that he indeed seemed better, and made endeavours to speak. The last time Mr. Drayton visited the doctress, her patient was found sitting up. She exhibited a stone, about the size of a goose's egg, saying she had taken the disease of the boy out of him as large as it, and that he would now get well. The parents were greatly delighted to hear that their son would recover. The reward she was to receive was a large basket of dried salmon, weighing eighty pounds, a blanket, and some other presents.

One singular custom prevailing here is, that all the convalescent sick are directed to sing for several hours during the day.

It would be a profitable occupation to be a medicine-man or woman, were it not for the forfeiture in case of a want of success; but this applies only where the patient is a person of distinction.

It is seldom that medicine-squaws are met with, as they are by no means numerous.

It was observed that many of the females were living under a little hut at some distance from the lodges; and it was ascertained that women, during the menstrual period, are not allowed to remain in the lodges, and are obliged to stay in huts at a distance, managing the best way they can during its continuance. This custom also prevailed very strictly after childbirth, and in that case continues for forty days. This latter custom, however, is not so rigidly adhered to by this tribe, at present, as it used to be; but among the northern tribes it is very strictly observed.

By the 20th, Mr. Drayton had finished his drawing and sketching, and obtained the necessary data for the map of the river and the country surrounding this post, to which it was one of the most central, and a commanding one for the protection of the country; and as I deemed that accurate information respecting it would be desirable, I had directed his attention particularly to this business. The manner in which this task was executed was very satisfactory, and merits my warmest acknowledgments.

In company with Mr. M'Kinley, Mr. Drayton rode to the great forks of the Columbia. On reaching that place, they made their way up the south branch, which is a large stream, and navigable for canoes a short distance above the mouth of the Kooskooskee river.

A remarkable phenomenon occurs on the junction of the waters of the Columbia and Snake rivers: the Columbia from the north brings a cold current, while the Snake from the south is warm. This difference is perceived even at Wallawalla; for the water passing along the east shore near the fort is too warm to drink, and when they desire to nave cool water for drinking it is brought from the middle of the river by a canoe.

On the day that Mr. Drayton was to leave Wallawalla, four men, who had accompanied Mr. Ogden's brigade as far as Okonagan, returned to Wallawalla on their way back to Vancouver. They brought no letters from Mr. Ogden.

Mr. M'Kinley furnished Mr. Drayton with horses and Indian guides, to return with the horses from the Dalles, and the party was increased by the four voyageurs to the number of eight. By the kindness of Mr. M'Kinley, and by the direction of Mr. Ogden, Mr. Drayton found himself fitted with good horses and every convenience requisite for the journey, besides a quantity of provisions. The first night they encamped near the Windmill Rock, having travelled a distance of thirteen miles.

The voyageurs, however, were found destitute of almost every thing, and spoke of their having been furnished with only a little tobacco, to carry them from Okonagan to Vancouver. Knowing Mr. Ogden's character as I do, I cannot believe that such was the fact. There were some, however, found by Mr. Drayton destitute of every thing, and he provided these with supper from his own stores, after which they lay down on the ground to sleep, without any shelter whatever. The general impression is, that these men are badly found and cared for.

They chose the left or south bank of the Columbia for their descent. Although the road on the north is the shortest, that on the south is better. In passing along, trails are seen, many sometimes joining together; which mark the routes of the Indians in their journeys across the country.

The next night they encamped within fifteen miles of John Day's river. Near their encampment there were several lodges, containing about forty Indians. At sunset, at the lodge of the old chief, a little bell was rung, when they all repaired thither and joined in devotions, the leader praying very loud. On the prayer being finished, they commenced gambling, and kept it up all night; but when the sun rose they again resorted to the lodge of the chief for prayer as before. During the whole night they made a most tremendous noise, singing and beating with sticks on splintered rails, which is the only substitute they have for a musical instrument.

The country had been easily travelled over until John Day's river was approached, when the route became extremely rough and rocky. On the banks of that river is a large village of about sixty Indians, and they were ferried across the stream for a pound of tobacco, while the horses swam over.

These Indians were as great extortioners as the others, and demanded tobacco, powder, and ball. The latter articles they are most desirous of obtaining, as the possession of them enables them to visit their hunting-grounds at the foot of Mount Hood.

The musquitoes were again found here in numbers; but the upper country seems to be entirely free from that annoyance.

The country from this ferry to the Chutes river is a flat prairie, half a mile wide, high enough not to be overflowed, and tolerably well watered, overgrown with small grass. The party passed the Chutes river before sunset, and encamped on its western bank.

On the morning of the 24th, they reached the Dalles. Mr. Drayton found this place entirely altered in its appearance, so much so that he could hardly realize that it was the same. The water had fallen during the twenty days of his absence about thirty feet, and was still subsiding. The Columbia was now confined within high perpendicular rocks; the beach, where he had before stood, and been able to touch the water with his hand as it passed through the confined banks, was now far above it, and the river, instead of rushing through its many canals, was now confined to a single one. It still, however, rushed along with all the fury and violence of a mighty torrent, and had yet as much as twenty-seven feet to fall to low water. In this state of the river the Company's boats frequently shoot or descend it, but this is at all times an exploit of great danger. Many fearful accidents have taken place with the most experienced boatmen, who with all their skill could not preserve themselves from being carried into the vortices, drawn under, and destroyed.

Such is the peculiar nature of the rush of waters through the Dalles, that for some minutes the whole will appear quite smooth, gliding onwards as though there were no treachery within its flow, when suddenly the waters will begin to move in extended and slow whirls, gradually increasing in velocity until it narrows itself into almost a funnel shape, when, having drawn towards it all within its reach, it suddenly engulfs the whole, and again resumes its tranquil state.

An awful accident was related to me by Mr. Ogden, of which he was an eye-witness, which will more clearly illustrate the nature of the place.

Mr. Ogden was descending the river in one of the Company's boats with ten Canadian voyageurs, all well experienced in their duties. On arriving at the Dalles, they deemed it practicable to run them, in order to save the portage. Mr. Ogden determined, however, that he would pass the portage on foot, believing, however, the river was in such a state that it was quite safe for the boat to pass down. He was accordingly landed, and ascended the rocks, from which he had a full view of the water beneath, and of the boat in its passage. At first she seemed to skim over the waters like the flight of a bird; but he soon perceived her stop, and the struggle of the oarsmen, together with the anxious shout of the bowman, soon told him that they had encountered the whirl. Strongly they plied their oars, and deep anxiety if not fear was expressed in their movements. They began to move, not forwards, but onwards with the whirl: round they swept with increasing velocity, still struggling to avoid the now evident fate that awaited them: a few more turns, each more rapid than the last, until they reached the centre, when, in an instant, the boat with all her crew disappeared. So short had been the struggle, that it was with difficulty Mr. Ogden could realize that all had perished. Only one body out of the ten was afterwards found at the bottom of the Dalles, torn and mangled by the strife it had gone through.

Mr. Drayton found that as many as half of the Indians had left their fishing. He noticed here, in attempting to make a bargain for canoes to take him as far as the Cascades, the same habit of extortion that was before evinced. In all cases, it seems to be a part of the Indian character to take advantage of distresses and wants. He was finally obliged to give four times as much as it ought to have cost to execute the work; and after the bargain was made, they informed him they must be paid before they launched the canoe; and when that was done, a fathom of tobacco must be given to each of them for launching her. This demand was not complied with, and the goods that had been paid were now seized and taken away again. Mr. Drayton then proceeded to the mission, where Mr. Lee kindly offered his canoe. This was accordingly put on an ox-cart,—for it is necessary to keep it near his house to prevent its being stolen,—and carried to the water. When they reached the river, the two canoes above spoken of were seen near the landing-place, and the owners offered them for a much less price, and without any "potlatch." Their offer was then accepted, when he embarked, and proceeded down the river about twelve miles, where they encamped.

At daylight the next morning there was not an Indian to be found, and two of the best paddles were gone, as well as the men's salmon. On a search being made, the fish were found hidden in the bushes. After leaving the shore, they were called to by the Indian, and on returning to him, the only excuse he offered was, that he had been asleep, and had but just awoke: he, however, ran off into the bush again. After they joined the other canoe, the old Indian in it said that the one who had run away had endeavoured to persuade him to steal Mr. Drayton's things; and when they landed at night the plan was to take the canoe and all off, when he was on shore: this was prevented by their carefully putting all the things into the tent.

When they reached the Cascades, an examination was made of the pine stumps before spoken of.

The same evening a boat reached the salmon-fishery, by which Mr. Drayton returned to Vancouver, where he met with the same kind reception and welcome he had before received.

From this trip, Mr. Drayton brought with him the materials for the construction of a map of the river, above the Cascades as far as Wallawalla, which has been incorporated in our chart of Oregon, and will be found in the small atlas accompanying the Narrative. I take this occasion to say, that I have embraced within this the whole of the territory of Oregon between the parallels of 42° and 54° N. The southern pass of the Rocky Mountains is also included, which was taken from the surveys of Lieutenant Fremont, of the United States Engineer Corps, and which I have designated as Fremont's Pass. This officer is now engaged in an exploration of the country about the

Youta Lake and the middle section of the territory, in a line on the east of the Cascade Range, from John Day's river to the south,—a portion of the country it was my intention to have traversed, if the Peacock had reached the Columbia river at the appointed time.

SKIN LODGE.

# CHAPTER XII.

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# CHAPTER XII.

## PUGET SOUND AND OKONAGAN.

### 1841.

On my return to Nisqually, my first care had reference to our provision of bread. This I found to be so far expended as to make it necessary to economize it by every means in my power, if I wished to avoid its falling short. I therefore determined to attempt to have fresh bread baked. With this view I had an oven built upon a plan borrowed from the steam-holes of the Indians. The bottom of the oven was formed upon a stage of plank, and the shape of the superstructure was given by bending twigs of hazel. These were covered with a plastic clay, which was found in abundance in the neighbourhood. A dough-trough was hollowed out of the trunk of a large tree. When the oven and trough were ready, another difficulty was to be overcome, for we had no bakers. This was remedied, however, by the assistance of our stewards and cooks; and two sailors instructed by them were appointed to take charge of the bakery. We now began to bake daily, and succeeded so well after a day or two, that the whole ship's company was daily supplied with full rations of soft bread, causing an important saving in our store of sea-biscuit.

I learned, immediately upon my return, that the surveys under Lieutenant-Commandant Ringgold and Lieutenant Case, were making rapid progress. The former, with the force under him, had completed a large portion of Admiralty Inlet; the latter had finished Hood's Canal, and had returned to take up the survey of Puget Sound. A report having been made to me, that one of the eye-pieces of the theodolite had been lost in Hood's Canal, Lieutenant Budd was ordered to relieve Lieutenant Case, and the latter was despatched to search for it. Lieutenant Case proceeded in a boat well armed, and visited all the stations he had before occupied, and became well satisfied that it had been stolen. While looking for it, a canoe with three Toandos joined him, and on learning what he was looking for, they said it was among the Scocomish tribe, and gave a full account of its having been picked up by a woman who was sitting near when the box was opened. Lieutenant Case took one of the men with him up the canal, to point out the place; on reaching which, they proceeded to the chief's house, who was absent, but soon returned. Lieutenant Case asked him for the missing article; the possession of which being denied, he took the chief's gun, telling him it would be kept until the eye-piece was restored. After several fruitless attempts, it could not be obtained; for the woman, it was said, had taken it down the canal. The chief, however, promised to follow her, which he did the next day. The next morning Lieutenant Case was threatened with an attack by eight canoes, which he avoided by making sail down the canal, when they desisted from following him. During the day he met the chief returning. He had been to the Scocomish village, having heard that a girl there had something resembling it, as he said, but it proved to be a cologne-bottle.

Lieutenant Case, finding that his party was too small to attempt force, restored the chief his gun. He was afterwards informed that the chief's object in visiting the villages on the canal, had been to collect his warriors. After leaving the chief, they were followed by a canoe containing five of the largest and most muscular men he had seen; all of whom were armed, and apparently disposed for some mischief. Although satisfied that the eye-piece was among them, Lieutenant Case deemed it prudent not to risk an encounter with such unequal odds, and returned to the ship. He was desirous of being furnished with a larger force, in order to return and obtain the eye-piece; but believing that a message would be equally effective, Mr. Anderson, at the fort, was obliging enough to despatch a war-messenger, to inform the tribe, that if it were not brought back, I would punish them.

Lieutenant Case's survey of Hood's Canal was very satisfactory. Its banks, as far as Tskutska Point, do not exceed one hundred feet in height, and are formed of stratified clay, with a light gravelly soil above it, thickly covered with different species of pines. This is also the character of the eastern shore, for the whole extent of the canal; but the west and north shores above this point become more bold and rocky, with a deeper and richer soil, formed by the alluvial deposits from the Mount Olympus Range.

On entering the canal, they encamped near some Suquamish Indians, who had received as visiters a party of fifty Clalams, by appointment to gamble for blankets: they continued their games throughout the night.

At Tskutska Point, the canal divides in two branches; one taking a northerly direction, while the other pursues its course to the southwest. After leaving the Suquamish, they met the Toandos, a small tribe, inhabiting the mountains; who, from their own account, are able to muster one hundred and fifty warriors.

Lieutenant Case reports them as the best-looking men they had met with. After passing further down the canal, they found the Scocomish tribe, who inhabit its southern end. These resemble in appearance the Toandos, with whom they are in close alliance, and have one hundred and fifty fighting men.

The canal was not found to terminate at the place where the examination of Vancouver ended; but, taking a short turn to the northward and eastward for ten miles, it approaches the waters of Puget Sound within a distance of two and a half miles. The intervening country is rough and hilly. From this point, Lieutenant Case had communication with the ship; and a supply of bread, of which he was in want, was sent him.

At the southern extremity of Hood's Canal, there is a large inlet, called Black Creek, by which the Indians communicate with the Chickeelees and Columbia rivers.

Before reaching the southern end of the canal, the rocky shore of the west side, near Mount Olympus, had gradually sloped into low land, with a thickly-wooded and good soil.

At the extreme end of the canal, there was also a wide creek, which had an extensive mud-flat at its mouth. This is the case with all the creeks that empty into these waters. The water in the centre of the sound is too deep for anchorage; but there are several good harbours, of all which surveys were made. They will be found in the Hydrographical Atlas.

There is plenty of water in the small harbours; and some few of them have water enough running into them to turn mills. There is no very great extent of country for cultivation, and the climate is very similar to that experienced at Nisqually. The survey being completed, the boats returned to the ship on the 3d of July.

During this time we had been steadily employed at the observatory, and by the 4th I had completed the pendulum and astronomical observations.

Wishing to give the crew a holiday on the anniversary of the Declaration of our Independence, and to allow them to have a full day's frolic and pleasure, they were allowed to barbecue an ox, which the Company's agent had obligingly sold me. They were permitted to make their own arrangements for the celebration, which they conducted in the following manner.

The place chosen for the purpose was a corner of the Mission Prairie, before spoken of. Here they slaughtered their ox, and spitted him on a sapling supported over the fire, which was made in a trench. The carcass could thus be readily turned, and a committee of the crew was appointed to cook him. Others were engaged in arranging the amusements, &c. All was activity and bustle on the morning of the 5th, as the 4th fell upon Sunday. Before nine o'clock all the men were mustered on board in clean white frocks and trousers, and all, including the marines and music, were landed shortly after, to march to the scene of festivity, about a mile distant. The procession was formed at the observatory, whence we all marched off with flags flying and music playing, Vendovi and the master-at-arms bringing up the rear. Vendovi was dressed out after the Feejee fashion. It was truly gratifying to me to see them all in such good health and spirits, not a man sick, and their clothes as white as snow, with happy and contented faces.

Had it not been for the want of news from the Peacock, and the consequent apprehensions in relation to her fate, I should have felt and enjoyed the scene much more than I did. But the continual feeling that the ship might have been lost on some coral reef, and the idea of the sufferings her officers and crew would, in such case, undergo, tended to repress all other thoughts. This anxiety was not only felt by myself, but the officers and crew partook of it in a great degree. It was impossible to conjecture her fate, yet her continued absence and detention beyond the time of her anticipated arrival, naturally excited many fears and surmises, which, as the time passed on, made each one more certain that some disaster had befallen them.

Two brass howitzers were also carried to the prairie to fire the usual salutes. When the procession reached Fort Nisqually, they stopped, gave three cheers, and waited, sailor-like, until it was returned. This was done by only a few voices, a circumstance which did not fail to produce many jokes among the seamen. On reaching the ground, various games occupied the crew, while the officers also amused themselves in like manner. At the usual hour, dinner was piped, when all repaired to partake of the barbecue. By this time, the Indians had gathered from all quarters, and were silently looking on at the novel sight, and wistfully regarding the feast which they saw going on before them. At this time the salute was fired, when one of the men, by the name of Whitehorn, had his arm most dreadfully lacerated from the sudden explosion of the gun. This accident put a momentary stop to the hilarity of the occasion. Dr. Fox, who was on the ground, thought that amputation of the arm above the elbow would be necessary, but it was deemed better to delay it for a time. The wound was dressed as well as it could be, and a litter was made, on which he was at once sent, under charge of his messmates, to the ship. Men-of-war's men are somewhat familiar with such scenes, and, although this accident threw a temporary gloom over the party, the impression did not last long, and the amusements of the morning were now exchanged for the excitement of horse-racing, steeds having been hired for the purpose from the Indians. This sport is always a favourite with sailors on shore, and in pursuit of it they had not a few tumbles, but fortunately none were seriously hurt. At sunset they all returned on board, in the same good order they had landed.

All the officers, together with Mr. Anderson, Captain M'Niel, and Dr. Richmond, dined with me at the observatory, and we were in hopes of having the company of Dr. M'Laughlin; but, owing to his having lost his way, he did not arrive until the following morning. He was gladly welcomed, and it gave us all great pleasure to acknowledge the attentions that had been heaped upon us by his order, and the kindness of the officers of the fort.

He paid me a visit on board, and felt greatly pleased with the ship, which was the first man-of-war he had ever been on board of. On his leaving the vessel, the yards were manned, and three hearty cheers given him by the crew, who were aware of his kindness in ordering them a supply of fresh provisions. He dined with us, and the next morning returned to the Cowlitz Farm, on his way back to Vancouver.

After the rejoicings were ended, the surveying party was again despatched to complete the survey of Puget Sound.

The height of Mount Rainier was obtained by measuring a base line on the prairies, in which operation I was assisted by Lieutenant Case, and the triangulation gave for its height, twelve thousand three hundred and thirty feet.

While engaged in these duties, I noticed from a point of the prairie, the white cones of both Mount St. Helen's and Mount Hood very distinctly. These mountains all resemble each other closely, and appear in some points of view as perfect cones. They give great interest and grandeur to the scenery. Mount Rainier is at all times a very striking object from the prairies about Nisqually, rising as it does almost imperceptibly from the plain, with a gradual slope, until the snow-line is reached, when the ascent becomes more precipitous.

The ascent of these mountains has never been effected, but it was my intention to attempt it, if my other duties had permitted, as I was very anxious to get a view of their terminal craters. The absence of the Peacock, however, and the great amount of work necessarily devolving on the rest of the squadron, made it impossible for me to undertake this additional labour.

Around Nisqually there are many beautiful rides, and if there were any vehicles, they would be equally favourable as drives; for the country admits of a carriage being driven in almost any direction, within many miles of the fort.

The Company have as yet few fields enclosed, nor is it necessary that they should have, so long as the cattle are watched and penned in at night. The practice of penning is adopted, not only to protect the animals from the wolves, but to save the manure and apply it to a useful purpose. These pens are about half an acre in size, and are enclosed with our Virginia fence, made of pine rails. They are moved once a week, which, in the course of the year, gives a fertilizing effect to a large piece of ground; and all those portions of it that have been poor and barren are thus brought readily, and at little expense or labour, under good cultivation.

On this farm there were about two hundred acres under cultivation, which I was informed would yield fifteen bushels of wheat to the acre, and it is intended to convert it into a grazing farm, for which purpose a stock of cattle was on its way from California, during the year of our visit.

It is estimated that three thousand sheep, fifteen hundred head of cattle, and about four hundred horses, may be maintained at this place. Mr. Anderson, a clerk of the Company, whom I have mentioned as being in charge of the post, receives no more than one hundred pounds for his superintendence.

The observatory duties being completed, I set out, with Lieutenant Budd and Mr. Eld, in three boats, to join the surveying party under Lieutenant Case. Mr. Anderson accompanied us, on a visit to the Shute's River Falls, where we intended to take horses, to ride to the Bute Prairie, with some men, to open several of the mounds, to discover their contents, if they had any.

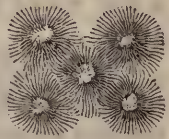
By the stupidity of the Indian guide, we took the wrong arm of the sound, and did not discover our error until we reached its extreme limit, where, as night overtook us, we were forced to encamp.

The next day, however, we reached the falls, which were insignificant, both in height and volume of water. This arm, which I have called Budd's, is a fine harbour, nine miles in depth, and about half a mile wide.

After forming our encampment near by (which was surrounded by Seringias in full blossom), and giving Lieutenant Budd and Mr. Eld orders, Mr. Anderson and myself, with six men, set off for the Bute Prairie, with shovels and picks. We reached the place about five o'clock, through a rain which had wet the bushes and undergrowth so much, that in passing through the Indian trails, we were completely drenched. These bushes consisted principally of Rubus and Alder. On our route we passed several beautiful and secluded prairies, of excellent soil, and covered with many flowers. The men began their digging early in the morning. These mounds have been formed by scraping the surface earth together in a heap. The soil, therefore, is very rich, and they have a rank growth of vegetation on them. Much of this rich earth or mould must have been brought from a distance. The regularity of their construction and shape, as well as the space over which they are scattered, are surprising. Although I could obtain no direct information respecting them, I was one day told that the medicine-man gathered his herbs from them, to make the decoctions with which he effects his cures.

Although all tradition concerning them may be lost, yet the custom of these medicine-men may have survived, and taking into consideration the influence they have had and still have over the tribes, it is possible that their predecessors might have had something to do with the formation of these monuments. They certainly are not places of burial. They bear the marks of savage labour, and are such an undertaking as would have required the united efforts of a whole tribe.

The hole, which was dug directly in the centre, was about four feet in diameter. At a depth of about six feet was found a kind of pavement of round stones, laid on the subsoil of red gravel. No articles of any description were discovered in the mounds, which seemed to be grouped in fives, as in the figure annexed. Although there is a general resemblance among them, they evidently have been constructed successively, and at intervals of several years. I heard it suggested that they had been formed by water-courses, but this I view as impossible, for they are situated on a level prairie, and are at least a thousand in number.



Observations for latitude and longitude were obtained here, but the weather did not permit me to get angles on Mount Rainier, as I was desirous of doing. The next day I parted with my friend, Mr. Anderson, who desired to return to Nisqually, while we returned to the falls. The ride was more disagreeable than we had before found it, and I felt heartily glad to get back to the surveying parties.

On the 12th, at seven o'clock, we began our surveying operations, and after a hard day's work, joined Lieutenant Case's party, when I took charge of the whole. My force, which now consisted of seven boats and their crews, was sufficiently strong to make rapid progress: the putting up of signals, the triangulation, and soundings, were all carried on at the same time. When we reached our encampment at night, the rough draft of our day's work was completed. We continued thus employed until the 17th, when we reached the ships, having completed the surveys of all the numerous branches of this sound: these all afford safe navigation for large vessels. The land is low, and well covered with various kinds of trees, among which the pine predominates: the other trees, consisting of spruces, oaks, arbutus, alders, and great quantities of seringias in full blossom, reminded me of our gardens at home. The perfume of the flowers scented the air for a long distance around. Some of the seringia-bushes were from twelve to fifteen feet high.

The soil is in some places good, but in others it is quite light and sandy. At the head of all the branches there are extensive mud-flats, and some small patches of salt meadow. We did not meet with many natives: those who inhabit this region were probably employed in taking fish, and they seldom remain in any place beyond the time necessary for this purpose.

On my return to the ship, I found that Lieutenant Johnson had returned, with the party of which he had charge. I shall therefore give in this place an account of their journey, and the country through which they passed, referring the reader to my orders to Lieutenant Johnson, in Appendix XII., for the route intended to be passed over, and the duties to be performed. But before leaving Nisqually, I have a few words to say about its position, and the Indian tribe of that name.

The situation of Nisqually is badly chosen for trade, for the anchorage is of small extent, and only a few vessels can be accommodated within a reasonable distance of the shore. It would also be much exposed to the southwest winds, and the hill is an insuperable objection to its becoming a place of deposit for merchandise, as it would very much increase the labour and expense of transportation. The Nisqually fort or post was chosen, as I have been informed, before the Company had an idea of transporting any articles by water. It has, however, one great recommendation, in the ease with which water may be obtained from the stream that flows in abreast of the anchorage. Much better places than Nisqually could be found in this vicinity, for the location of a town. There is one, in particular, just within Kitron's

Island, about a mile and a half to the north of Nisqually anchorage, where the shore has a considerable indentation. There, although the water is deep, vessels would be protected from the winds which blow most violently, from the southwest, southeast, and northwest, and also from any sea, while Nisqually is not: this place is equally well supplied with water, and the hill is by no means so precipitous.

The spring tides were found to be eighteen feet, those of the neaps twelve feet. High water, at the full and change, at $6^h\ 10^m$, P. M. During the whole of our stay there was found to be a great discrepancy between the day and night tides, the latter not rising as high as the former by two feet.

The country in this vicinity is thought to be remarkably healthy, and on all these salt-water inlets, the winter is represented to be mild, and but of short duration. The mean temperature, six feet under ground, during our stay at the observatory, from the 20th of May till the 14th of July, was found to be 58·5°. I was not fully satisfied that this record gave correct results for the mean temperature of the climate, although frosts do not penetrate the ground; for by the same manner of trying it, and under almost the same circumstances, at Astoria, we obtained only 54°, although that place is a degree to the south of Nisqually.

The geographical position of Nisqually will be found in the tables. The greatest range of temperature was found to be 55°, the lowest 37°; and the mean, during the same period, 63·87°: the barometer standing at 29·970 in.

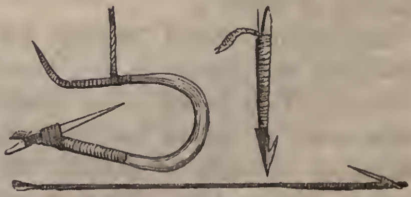
The Indians around Nisqually are few in number, and the whole tribe does not amount to two hundred, including men, women, and children. They belong to the tribes who flatten their heads, and are represented as vicious and exceedingly lazy, sleeping all day, and sitting up all night to gamble. So strong is the latter propensity among all these tribes, that it is said, that after parting with all their movable property, they will go so far as to stake their wives and children, and lastly even themselves for years of slavery.

Their clothing seldom consists of more than a blanket, a pair of skin breeches, and moccasins. Little or no distinction of rank seems to exist among them: the authority of the chiefs is no longer recognised, and each individual is left to govern himself.

They are addicted to stealing, and will run some risk to effect their object: thus, several blankets were stolen from the hammocks of our men while asleep in their tents, although a sailor was known to be on guard with loaded arms, only a few paces from the spot. Mr. Anderson informed me that he had employed several of them to till the land, but he found them disinclined to work, although he admitted they were more apt than he had anticipated. This tribe, so far as respects the ability of committing depredations on the whites, is quite harmless, and is rapidly thinning off through diseases contracted by a change of habits. They are all of a wandering character, and change their residences in search of their food, which consists principally of fish, particularly shell-fish. Clams are seen in great quantities among them, strung on sticks, upon which they have been preserved by drying and smoking. They also store up pounded salmon, and the cammass-root. In the fall and winter they are supplied with an abundance of game and wild-fowl, on which they then live; but they are not upon the whole well fed, as they are little disposed to exert themselves to procure a supply of food, when they are not in actual want. In the winter several families live together in their large board lodges: when the spring comes on they again break up, and resort in small parties to those places where they can obtain their food most easily. This tribe, as is the case with most of those in the territory, speak a peculiar language among themselves, but in communication with others they use the Chinook language.

As the spring is opening, small parties of these Indians may be frequently seen on their way, with their goods and chattels tied on their horse's back, or in small canoes, to the different cammass and fishing grounds.

During the salmon-fishery, vast shoals of young herring are seen, which the Indians take with a kind of rake attached to the paddle. The herring are used for bait for the salmon. Their hooks are made in an ingenious manner of the yew tree, and are strong and capable of catching the large fish. They are chiefly employed in trailing for fish. A species of rock cod is also abundant, some of which exceed fifty pounds in weight. Flounders are also to be had in great quantities.



FISH-HOOKS.

I have before stated that Lieutenant Johnson's party was ready for departure on the 19th May; that it consisted of Lieutenant Johnson, Messrs. Pickering, Waldron, and Brackenridge, a sergeant of marines, and a servant. I must do justice to the exertions of this officer in getting ready for his journey, which he accomplished in less time than I anticipated, as the delays incident to setting out on a novel expedition, and one believed by most persons to be scarcely practicable in the summer season, are great and tantalizing. In making preparations for such a journey, the Indians were to be bargained with, and, as I have before had occasion to remark, are enough to tire the patience of Job himself. First, the Indian himself is to be sought out; then the horse is to be tried; next the price is to be discussed, then the mode of payment, and finally the potlatch: each and all are matters of grave consideration and delay, during which the Indians make a business of watching every circumstance of which they can take advantage. No one can be sure of closing his bargain, until the terms are duly arranged, the potlatch given, and the horse delivered. After obtaining horses, Lieutenant Johnson had the saddles, alforcas, saddle-cloths, saddle-trees or pack-saddles, &c., with a variety of lashings, to prepare. For many of these we were indebted to the kindness of Captain M'Niel and Mr. Anderson. Others were made on board the ship, after a pattern lent us. One of the most important persons to obtain was a good guide, and hearing of one who resided at the Cowlitz river, by the name of Pierre Charles, he was at once sent for; but I did not think it worth while to detain the party until his arrival, as he could easily overtake it. Lieutenant Johnson, therefore, was directed to hurry his departure, and to set out, which he did on the 19th May, at noon, and proceeded to the prairie about two miles distant, where the party encamped.

There is little danger on these expeditions of having too few articles: the great difficulty is to avoid having too many. It turned out as I had anticipated. The first night passed in their tent fully satisfied them of this, and taught them to dispense with all other bedding save blankets.

Mr. Anderson rode to the encampment before night, bringing the news of the arrival of Pierre Charles at the fort; whereupon Lieutenant Johnson returned to make an agreement with him and his companion. This was done, although, as is to be supposed, their demands were exorbitant, in consequence of the belief that their services were indispensable.

Pierre Charles's companion was a young man, named Peter Bercier, (a connexion of Plumondon,) who spoke English, and all the languages of the country.

On the morning of the 20th, they obtained an accession to their horses, and set out on their route towards the mountains. Although the possibility of crossing them was doubted, yet I felt satisfied if exertion and perseverance could effect the object, the officer who had charge of the party would succeed. This day, they made but five miles; after which they encamped, at the recommendation of Pierre

Charles, in order that the horses might not be over-fatigued, and be able to get good pasture and water. Here a number of natives visited the camp. Pine trees were in large numbers, many of them upwards of one hundred and thirty feet in height. On the banks of a small stream, near their camp, were found the yellow Ranunculus, a species of Trillium, in thickets, with large leaves and small flowers, Lupines, and some specimens of a cruciferous plant.

On the 21st they made an early start, and in the forenoon crossed the Puyallup, a stream about seventy feet wide; along which is a fine meadow of some extent, with clumps of alder and willow: the soil was of a black turfy nature. After leaving the meadow-land, they began to ascend along a path that was scarcely visible from being overgrown with Gaultheria, Hazel, Spiræa, Vaccinium, and Cornus.

During the day, they crossed the Stehna. In the evening, after making sixteen miles, they encamped at the junction of the Puyallup with the Upthascap. Near by was a hut, built of the planks of the Arbor Vitæ (Thuja), which was remarkably well made; and the boards used in its structure, although split, had all the appearance of being sawn: many of them were three feet wide, and about fifteen feet long. The hut was perfectly water-tight. Its only inhabitants were two miserable old Indians and two boys, who were waiting here for the arrival of those employed in the salmon-fishery. The rivers were beginning to swell to an unusual size, owing to the melting of the snows in the mountains; and in order to cross the streams, it became necessary to cut down large trees, over which the packs were carried, while the horses swam over. These were not the only difficulties they had to encounter: the path was to be cut for miles through thickets of brushwood and fallen timber; steep precipices were to be ascended, with slippery sides and entangled with roots of every variety of shape and size, in which the horses' legs would become entangled, and before reaching the top be precipitated, loads and all, to the bottom. The horses would at times become jammed with their packs between trees, and were not to be disengaged without great toil, trouble, and damage to their burdens. In some cases, after succeeding in getting nearly to the top of a hill thirty or forty feet high, they would become exhausted and fall over backwards, making two or three somersets, until they reached the bottom, when their loads were again to be arranged.

On the 22d, their route lay along the banks of the Upthascap, which is a much wider stream than the Puyallup. A short distance up, they came to a fish-weir, constructed as the one heretofore described, on the Chickeeles, though much smaller.

This part of the country abounds with arbor-vitæ trees, some of which were found to be thirty feet in circumference at the height of four feet from the ground, and upwards of one hundred feet high. Notwithstanding the many difficulties encountered, they this day made about twelve miles.

On the morning of the 23d, just as they were about to leave their camp, their men brought in a deer, which was soon skinned and packed away on the horses. This was the first large game they had obtained, having previously got only a few grouse.

They had now reached the Smalocho, which runs to the westward, and is sixty-five feet wide: its depth was found to be four and a half feet, which, as it was also rapid, was too great for the horses to ford and carry their loads. The Indians now became serviceable to them. Lieutenant Johnson had engaged several that were met on their way, and they now amounted to thirteen, who appeared for a time lively and contented. This, however, was but a forerunner of discontent, and a refusal to go any farther; but with coaxing and threatening they were induced to proceed.

The road or way, after passing the river, was over a succession of deep valleys and hills, so steep that it was difficult for a horse to get up and over them with a load, and the fall of a horse became a common occurrence. They were all, however, recovered without injury, although one of them fell upwards of one hundred feet; yet in consequence of his fall having been repeatedly broken by the shrubs and trees, he reached the bottom without injury to himself, but with the loss of his load, consisting of their camp utensils, &c., which were swept off by the rapid current of the river.

The route lay, for several days, through forests of spruce, and some of the trees that had fallen measured two hundred and sixty-five feet in length. One of these, at the height of ten feet from the roots, measured thirty-five feet in circumference; and at the end which had been broken off in its fall, it was found to be eighteen inches in diameter, which would make the tree little short of three hundred feet when it was growing. The stems of all these trees were clear of branches to the height of one hundred and fifty feet from the ground, and perfectly straight. In many cases it was impossible to see over the fallen trees, even when on horseback, and on these, seedlings were growing luxuriantly, forcing their roots through the bark and over the body of the trunk till they reached the ground. Many spruces were seen which had grown in this way; and these, though of considerable size, still retained the form of an arch, showing where the old tree had lain, and under which they occasionally rode. As may be supposed, they could not advance very rapidly over such ground, and Lieutenant Johnson remarks, that although he was frequently desirous of shortening the road, by taking what seemed a more direct course, he invariably found himself obliged to return to the Indian trail.

Daylight of the 24th brought with it its troubles: it was found that the horses had strayed,—a disaster that the Indians took quite coolly, hoping it would be the cause of their return. After a diligent search, the horses were found in places where they had sought better food, although it was scanty enough even there.

During the day, the route led along the Smalocho, which runs nearly east and west; and they only left its banks when they were obliged to do so by various impassable barriers. This part of the country is composed of conical hills, which are all thickly clothed with pine trees of gigantic dimensions. They made nine miles this day, without accident; but when they encamped, they had no food for the horses except fern. The animals, in consequence, seemed much overcome, as did also the Indians, who had travelled the whole day with heavy loads. Lieutenant Johnson, by way of diverting the fatigue of the latter, got up a shooting-match for a knife, the excitement of which had the desired effect.

The trees hereabout were chiefly the cotton-wood, maple, spruce, pine, and elder, and some undergrowth of raspberry, the young shoots of which the natives eat with great relish.

On the 25th, they set out at an early hour, and found the travelling less rough, so that they reached the foot of La Tête before noon, having accomplished eleven miles. Lieutenant Johnson with the sergeant ascended La Tête, obtained the bearings, from its summit, of all the objects around, and made its height by barometer, two thousand seven hundred and ninety-eight feet: its latitude was fixed at 47° 08′ 54″ N. This mountain was entirely destitute of wood; but, having been burnt over, was found strewn with huge charred trunks, and the whole ground covered with ashes. The inclination of its sides was about fifty degrees.

The country around seemed one continued series of hills, and like La Tête had suffered from the fire. According to the natives, although the wood on the mountains was destroyed many years since, yet it was still observed to be on fire, in some places, about two years ago. Most of the tops of the distant peaks had snow on them. To the east was seen the appearance of two valleys, through which the two branches of the Smalocho flow.

On descending from La Tête, the river was to be crossed: this was found too deep to be forded, and it consequently became necessary to form a bridge to transport the baggage, by cutting down trees. The current was found to run 6·2 miles per hour. They had been in hopes of reaching the Little Prairie before night, but in consequence of this delay, were forced to encamp before arriving there.

The Indians complained much of the want of food: many of the horses also were exhausted for the same cause, and exhibited their scanty nourishment in their emaciated appearance.

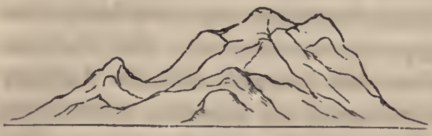
On the 26th, they reached the Little Prairie at an early hour, where, after consultation, it was determined to wait a day to recruit the horses, as this was the only place they could obtain food. It was also desirable to ascertain the practicability of passing the mountain with the horses, and at the same time to carry forward some of the loads, that the horses might have as little as possible to transport. Mr. Waldron and Pierre Charles were therefore sent forward with the Indians, having loads of fifty pounds each, to ascend the mountain, while Lieutenant Johnson remained with the camp to get observations. Dr. Pickering and Mr. Brackenridge accompanied the party of Mr. Waldron to the snow-line. The prairie on which they had encamped was about two and a half acres in extent, and another of the same size was found half a mile farther east.

The 27th was employed by Lieutenant Johnson in determining the positions of this prairie, which proved to be in latitude 47° 05′ 54″ N., and longitude 120° 13′ W. The variation was 19° 39′ easterly. At sunset, messengers arrived from Mr. Waldron, who had reached the summit at noon, and was to proceed down to the snow-line to encamp. The snow was found to be about ten feet deep, and the party crossing sank about ankle-deep, for which reason opinions varied as to the possibility of getting the horses over; but it was determined to make the trial. Lieutenant Johnson, therefore, set out, leaving a supply of food with an old Indian and a horse, both of whom were worn out, and unable to proceed.

By eleven o'clock, they were met by Pierre Charles and the Indians, who gave some slight hopes of accomplishing the task of getting all over. Lieutenant Johnson determined to take only the strongest horses to the edge of the snow. At half-past 5 P. M., they reached the best practicable encampment, being a mile beyond the place where Mr. Waldron had encamped two days before. The snow having melted so rapidly, Lieutenant Johnson, taking all things into consideration, determined, notwithstanding the forebodings of failure held out by the party that had gone before, to make the attempt. It now became necessary to push on with as much haste as possible, on account of the state of their provisions; for what with the loss sustained in fording the river, and in consumption, they were obliged to adopt an allowance.

On the 29th, they departed, at early dawn, in order to take advantage of the firmness of the snow, occasioned by the last night's frost. They ascended rapidly, and passed over the worst of the way, the horses sinking no deeper than their fetlocks. They first passed over a narrow ridge, and then a succession of small cones, until they reached the summit.

Mount Rainier, from the top, bore south-southwest, apparently not more than ten miles distant. A profile of the mountain indicates that it has a terminal crater, as well as some on its flanks. The barometer stood at 24·950 in.: five thousand and ninety-two feet. There was another, to the north-northeast, covered with snow, and one to the west appeared about two hundred feet higher than the place where the observations were taken. This latter had suffered from fire in the same way as La Tête, and showed only a few patches of snow. To the eastward, a range of inferior height, running north and south, was in view, without snow.



MOUNT RAINIER.

On the western ascent of this mountain, the pines were scrubby; but at the summit, which was a plain, about a mile in length by half a mile wide, they were straight and towering, about eighty feet in height, without any limbs or foliage, except at the top. The distance travelled over the top was about five miles. On descending the east side, the snow was much deeper and softer, but the horses managed to get along well, and without accident.

Lieutenant Johnson, in following the party, missed the trail, and lost his way for three or four hours. On discovering the camp of those who had gone before, on the opposite side of a stream, he attempted to cross it on a log, in doing which his foot slipped, and he was precipitated into the water. Although his first thought was to save the chronometer from accident, it was too late, for the watch had stopped; it was not, however, so far injured as not to be set a-going, and it continued to go during the remainder of the journey: the only use I have been able to make of his subsequent observations, was to obtain the relative meridian distances between the points visited, without the absolute longitude. It is needless to say, that I placed little or no dependence on them, in constructing the map.

Although the horses had, with one or two exceptions, reached the eastern side of the mountain, yet they, together with the Indians, were very much exhausted. The time had now come when the Indians, according to agreement, were to be paid off, and they had done much more than they agreed to do, having crossed the mountain twice.

Finding the necessity of retaining all the blankets that had been brought with them, in order to buy horses, Lieutenant Johnson proposed to the Indians to receive an order on Nisqually, in lieu of the immediate delivery of the blankets. This they readily assented to, and also willingly gave up those that had already been paid them, on receiving a similar order,—thus showing a spirit of accommodation highly praiseworthy. Only two of them returned to Nisqually, to whom were entrusted the botanical specimens, and the care of the horses left upon the road.

The banks of the small streams on the eastern side of the mountain were bordered with the greatest variety of trees and shrubs, consisting of poplars, buckthorn fifty feet high, dogwood thirty to forty feet high, several species of willow, alder, two species of maple, and occasionally a yew. The undergrowth was composed of Hazel, Vaccinium, Gaultheria, and a prickly species of Aralia. The herbaceous shrubs were Goodyera, Neottia, Viola, Claytonia, Corallorrhiza. The latter, however, were not in flower.

The party on foot, after leaving the Little Prairie about half a mile, crossed the northern branch of the Smalocho, which was found much swollen and very rapid. Two trees were cut down to form a bridge. After this, the walking through the forest became smooth and firm, and they passed on at a rapid pace. The Indians, although loaded with ninety pounds of baggage, kept up with the rest. At nightfall they encamped at the margin of the snow.

On lighting their fires, they accidentally set fire to the moss-covered trees, and in a few moments all around them was a blazing mass of flame, which compelled them to change their quarters farther to windward. They had made eighteen miles. But few plants were found, the season being too early for collecting at so high an elevation. The ground was covered with spruce-twigs, which had apparently been broken off by the weight of the snow. The summit was passed through an open space about twenty acres in extent. This glade was surrounded with a dense forest of spruce trees. There was no danger in walking except near the young trees, which had been bent down by the snow, but on passing these they often broke through, and experienced much difficulty in extricating themselves, particularly the poor Indians, with their heavy burdens. The breadth of snow passed over was about eight miles. At three o'clock they reached the Spipen river, where they encamped: this camp was found to be two thousand five hundred and forty-one feet above the level of the sea. The vegetation appeared to our botanical gentlemen farther advanced on the east side than on the west, at the same height; the Pulmonarias and several small annuals were more forward. There were only a few pine trees, and those small, seen on the west side of the ridge; and on the east side, there was a species of larch, the hackmatack of the country. While they remained at this camp, they found a Pyrola, and some new ferns.

The country about the Spipen is mountainous and woody, with a narrow strip of meadow-land along its banks. Mr. Waldron had, on arriving at the camp, sent Lachemere, one of the Indians, down the river to an Indian chief, in order to procure horses. Those that remained after providing for the baggage, were consequently assigned each to two or three individuals to ride and tye on their route.

On the 30th, they proceeded down the Spipen, making a journey of eighteen miles, and passed another branch of the river, the junction of which augmented its size very considerably. Its banks, too, became perpendicular and rocky, with a current flowing between them at the rate of six or seven miles an hour. After the junction, the stream was about one hundred feet broad, and its course was east-southeast.

The vegetation on the east side of the mountains was decidedly more advanced than that to the west, and several very interesting species of plants were met with by the botanists, on the banks of the streams: among them were Pæonia brownii, Cypripedium oregonium, Pentstemon, Ipomopsis elegans, and several Compositæ, and a very handsome flowering shrub, Purshia tridentata.

On the 31st, they continued their route over a rough country, in some places almost impassable for a horse from its steepness, and in others so marshy as to require much caution to prevent being mired.

During the morning, they met two Indians, who informed them that the chief of the Yakima tribe was a short distance in advance, waiting to meet them, and that he had several horses. At noon they reached a small prairie on the banks of the river, where old Tidias, the chief, was seen seated in state to receive Lieutenant Johnson; but this ceremony was unavoidably broken in upon by the necessity of getting the meridian observations. The chief, however, advanced towards him with every mark of friendship, giving the party a hearty welcome. In person he was tall, straight, and thin, a little bald, with long black hair hanging down his back, carefully tied with a worsted rag. He was grave, but dignified and graceful. When they had been seated, and after smoking a couple of pipes in silence, he intimated that he was ready for a talk, which then followed, relative to the rivers and face of the country; but little information was obtained that could be depended upon.

This tribe subsist chiefly upon salmon and the cammass-root: game is very scarce, and the beaver have all disappeared. The cammass-root is pounded and made into a sort of cake, which is not unpleasant, having a sweetish taste, but it is very dry, although some of the party took a fancy to it.

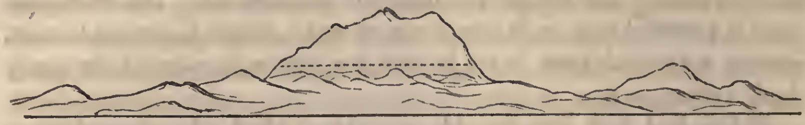
Tidias had with him an old man almost blind, who claimed much respect, and two young men, whose dress of buckskin, profusely ornamented with beads, was much admired by the party. During the talk, the old chief expressed himself delighted to see the white men, and spoke of his own importance, his immense territory, &c., in a style of boasting, to which the Indians are very much addicted. He said that he was desirous of affording all the accommodation he could to the party. But although he had eight or ten fine horses with him, he would not agree to part with them, as they were all his favourites. He was presented with a variety of articles, in return for which he gave the party a few dried salmon.

Towards evening, old Tidias took leave of them, saying that it was not proper for an Indian to encamp in the same place with a white man, and with a promise that he would have horses by ten o'clock the next day; but he had a game to play by procrastinating, in which he thoroughly succeeded.

In the morning they reached the Indian camp below, but no horses had arrived. It was far, they said, to Tidias's house; a man could not go thither and return in the same day; no horses or salmon could be brought; no one could be permitted to go. Lieutenant Johnson was then told that the road he had to follow was a "hungry" road. At last the Indian was induced by high offers to exchange good horses for a great number of bad ones, and finally consented to part with two more. On quitting him they became thoroughly aware that all the difficulties were owing, not to any indisposition to sell, but were created for the purpose of inducing high prices to be given.

The party now branched off at right angles to their former route, Lieutenant Johnson heartily sick and tired of his friend Tidias and his people. Two more of the Indians here left them. The country they entered, after passing a ridge about six hundred feet high, was quite of a different aspect, forming long sloping hills, covered with a scanty growth of pines. Many dry beds of rivulets were passed, and the soil of the hills produced nothing but a long thin grass. There are, however, some small valleys where the growth of grass is luxuriant, the pines are larger, and the scenery assumed a park-like appearance.

From the summit of one of the hills, a sketch of Mount Rainier, and of the intervening range, was obtained.



MOUNT RAINIER.

On the top of the ridge they fell in with a number of Spipen Indians, who were engaged in digging the cammass and other roots. The latter were those of an umbelliferous plant, oblong, tuberous, and in taste resembling a parsnep. The process used to prepare them for bread, is to bake them in a well-heated oven of stones; when they are taken out they are dried, and then pounded between two stones till the mass becomes as fine as corn meal, when it is kneaded into cakes and dried in the sun. These roots are the principal vegetable food of the Indians throughout Middle Oregon. The women are frequently seen, to the number of twenty or thirty, with baskets suspended from the neck, and a pointed stick in their hand, digging these roots, and so intently engaged in the search for them, as to pay no attention whatever to a passer-by. When these roots are properly dried, they are stored away for the winter's consumption. This day they made only fifteen miles, in a northern direction.

On the 2d of June, they reached the Yakima, after having crossed a small stream. The Yakima was too deep for the horses to ford with their packs, and they now for the first time used their balsas of India-rubber cloth, which were found to answer the purpose of floating the loads across the stream.

This river is one hundred and fifty feet wide, and pursues an east-southeast course, with a velocity of more than four miles an hour. At this place were found twenty migrating Indians, who have their permanent residence on the banks lower down.

The chief, Kamaiyah, was the son-in-law of old Tidias, and one of the most handsome and perfectly-formed Indians they had met with. He was found to be gruff and surly in his manners, which was thought to be owing to his wish to appear dignified. These Indians were living in temporary huts, consisting of mats spread on poles. Among them was seen quite a pretty girl, dressed in a shirt and trousers, with moccasins of skin very much ornamented with fringe and beads. They had a number of fine horses, but could not be induced to part with any of them.

Lieutenant Johnson had now succeeded in purchasing venison and salmon, and the party again had full allowance.

On the 3d, they continued their route to the northward, over gradually rising ground, and Lieutenant Johnson having succeeded in purchasing three more horses, only three of the party were now without them, so that the riding and tye system was not quite so often resorted to as before. On this plain was seen a number of curlews, some grouse, and a large species of hare. They encamped again near the snow, and found their altitude greater than any yet reached, the barometer standing at 24·750 in.: five thousand two hundred and three feet. They had again reached the spruces and lost the pine, which was only found on the hill-sides and plains.

At 4 A. M. on the morning of the 4th of June, the thermometer stood at 28°. They on that day continued their route up the mountain and across its summit, which was here and there covered with patches of snow. I regret to record another accident to the instruments. The sergeant, to whom the barometer was intrusted by Lieutenant Johnson, in putting up the instrument this morning, carelessly broke it; and thus ended the barometrical experiments in the most interesting portion of the route.

It is difficult to account for the scarcity of snow on a much higher elevation than they had before reached, and under circumstances which would appear to have warranted a contrary expectation. Dr. Pickering was induced to believe that this change in the climate is owing to the open nature of the surrounding country; its being devoid of dense forests, with but a few scattered trees and no under-brush; and the vicinity to elevated plains, and the ridge being of a less broken character.

The early part of the day was cold, with showers of sleet. On the crest of the mountain they passed over swampy ground, with but a few patches of spruces: after passing which, they began to descend very regularly towards the Columbia, which they reached early in the afternoon, about three miles below the Pischous river. The Columbia at this place is a rapid stream, but the scenery differs entirely from that of other rivers: its banks are altogether devoid of any fertile alluvial flats; destitute even of scattered trees; there is no freshness in the little vegetation on its borders; the sterile sands in fact reach to its very brink, and it is scarcely to be believed until its banks are reached that a mighty river is rolling its waters past these arid wastes. The river, in this section of the country, is generally confined within a ravine of from one thousand to fifteen hundred feet below the general level of the country. It was much swollen when our party reached it; but it is at no time fordable here. Its width, by measurement made a few miles above, was six hundred yards.

A mile before reaching the banks of the Columbia, there were many stupendous castellated rocks, of a yellow colour, which proved to be a soft sandstone. The only shrub was the wormwood.

They passed along the banks of the Columbia to the junction of the Pischous. The course of the latter is to the southeast: it takes its rise in a distant range of snowy mountains, which are seen in a northwest direction. Half a mile above its mouth it is two hundred and fifty yards wide, but the water of the river, in consequence of the state of the Columbia, was backed up; and although it was said by the Indians not to have reached its full height, yet it appeared to have risen to the high-water marks.

They encamped on the southwest side of the river, in a beautiful patch of meadow-land, of about one hundred acres in extent, which the Indians had enclosed in small squares by turf walls; and in them they cultivated the potato in a very systematic manner. On the meadows were found numbers of grouse and curlews, of which they killed many. There were also many wild currants, just ripening. The Pischous was called here, by some of the Indians, the Wainape. I have, however, retained the former name on the map as being that by which it is more commonly known.

From the point of junction, the Columbia can be traced for the distance of thirty-five miles. At the opposite shore of the river, the banks have a more uniform appearance, and would give the idea that on reaching their summit of one thousand five hundred feet, an extensive table-land would be seen; but this is not the case, for mountainous land rises at some distance beyond, but it has no snow upon it, and is destitute of trees. Below, at a distance of ten or twelve miles, is seen a high-peaked isolated rock, which Lieutenant Johnson conjectured to be Buckland Rock; and beyond it, the river seems to take a turn to the southward. Between the forks of the rivers, the hills are very rugged, steep, and rocky.

On the 5th of June, by the timely arrival of an Indian in a canoe, they were enabled to cross the Pischous, and to find out the route they ought to pursue towards Okonagan. With this aid, and without much difficulty, the horses and all the baggage were safely landed on the opposite side, after which their course continued along the Columbia river. The path was a very rough one for the horses to travel, being frequently over jagged rocks, which approach within a few feet of the water's edge, and in places so near as to leave but a ledge for the horses to pass on, rendering it both laborious and dangerous. These rocks are of granite, with veins of white marble, one of which was several feet in width. Much of the rock resembles slate, capable of being split into thin slabs, and of a dark gray colour. They met with, during this day, many interesting plants, among which were a cupressus tree and a cruciferous plant on the rocks, which an Indian woman was gathering for food. To the taste they were extremely bitter. Large quantities of wild gooseberries were also to be found growing among the rocks, but proved quite insipid.

They encamped on a small sand-flat on the Columbia, having made about eleven miles.

On the 6th, after travelling seven miles, they reached the banks of a small stream, called by the Indians Entiyatecoom, but known by the Canadian voyageurs as Point de Bois. Its course is nearly east and west; it is about one hundred feet wide, and was found at its mouth too deep to ford. They, therefore, continued up the stream for about a mile and a half, in hopes of finding a suitable place. While thus ascending the stream, they were accosted by several Indians, who motioned to them to return to the mouth of the river, whither a canoe was now brought to transport their baggage, and an Indian was despatched to a fishing station, who returned with salmon ready cooked.

The chief of the tribe of Okonagan Indians became much dissatisfied at the mode in which payment was offered him, and which he refused to accept, and went unrewarded for his important services, to the regret of many of the party. They again proceeded on their journey, and came, in the course of a mile, to the camp of the natives from whom the salmon had been sent them. They found them employed in salmon-fishing. Including men, women, and children, they were twenty in number. This is their permanent residence, but they were then living in the usual summer huts, of mats, and near by were the winter habitations, which consisted of two mounds, each of which might contain about ten. Both of these were open towards the river, the door being a round aperture, eighteen inches in diameter. These Indians seem to have little to protect them from the cold of winter, except the grass and their clothing, and do not appear to have any fire in their winter habitation. The mystery about the cooked salmon was now solved, for it appeared that, as soon as the fish are taken, they are at once roasted, and then exposed to the sun to dry on a shed, after which the meat is pounded and made into balls, which are stored for winter food. They keep a large quantity of it on hand, and it constitutes almost their only food. Their salmon-fishery was on the opposite side of the river. Some of the party bought a number of salmon, the smallest of which weighed nearly forty pounds. These Indians had many good horses, which they had no inclination to sell.

About two miles above the Indian village, they unexpectedly found that they were obliged to cross the Columbia. The balsas were, therefore, put in requisition, and a raft was constructed, on which, with the assistance of a canoe obtained from the Indians, they succeeded in getting all their baggage safely deposited on the other side, whither the horses were also brought.

In lighting their fires they ignited the grass on the prairie, and produced quite a conflagration, which for a time threatened their camp, but they succeeded in extinguishing it. Lieutenant Johnson now engaged an Indian to show them the road to Okonagan, for which they intended to set out at an early hour.

Their course now lay along the Columbia, and, towards the latter part of the day, on the high prairie-land, which was somewhat sandy, and seemed likely to be unprofitable for any purpose, except sheep-pasture. The guides were quite averse to entering on the high prairie, alleging that it was destitute of water.

Lieutenant Johnson, however, determined to pass on, after filling the water-bags. Ascending two thousand feet, they reached the high plain, where all were much delighted with the magnificent and extensive view. The whole sweep of the prairie burst upon them, uninterrupted by any shrub, but covered by a long grass, clothing the gentle inclinations as well as the hollows. The view was desolate, nothing appearing to relieve the eye, but the very distant dark-blue mountains to the northward and eastward, which pointed out the course of the Columbia, or the snow-capped tops of Mount Rainier and the ranges they had left.

Over this prairie they had no track to guide them, but proceeded on a course north-by-east, leaving a remarkable peak, to which the name of Mount St. Pierre was given, to the east of their route. After travelling three miles, they encamped, and were enabled to cook their dinner with a hawk's nest and a few bushes growing out of a rock. The Indians indulged themselves in a feast on the squab hawks: these birds, from the quantities of down on their legs, have a droll appearance.

This plain—for so it must be called—was found tolerably level, and, although it is covered with grass, yet there is but a slight tint of green over the landscape. This grass is the natural hay before spoken of, which seems to point out this for a grazing country, though there is a large district destitute of water.

On the 8th, at one o'clock, the party reached the banks of the Columbia, opposite to Okonagan, when a canoe was employed to take them over. This post was in charge of a Canadian by the name of Le Pratt; but the whole is now going into rapid decay, as it is only retained as an entrepôt for the deposit of supplies, &c., in connexion with the posts in New Caledonia, as the northern part of this country is called by the Hudson Bay Company. Okonagan lies directly on the route thither, and here they change from land to water transportation. Were it not for the convenience it affords, in this respect, it would not be retained. It is inhabited by two Canadian white men and numerous half-breed women and children, the men having gone down the river with Mr. Ogden. It has, as usual at the posts, an Indian encampment on the outside, but there is no Indian settlement within eight miles, where there is a salmon-fishery. Few skins are obtained here, and the extreme scarcity of game and fur animals is remarkable throughout all this part of Middle Oregon. This is somewhat difficult to account for, as we are well satisfied that there is abundance of food, and that all kinds of cattle would thrive exceedingly in this section, where grass is so abundant.

Okonagan and the old Spokane House, on the river of the same name, (now abandoned,) were the first posts established in this country by the American Company, some twenty-nine years prior to our visit. Falling into the possession of the Northwest Company, they were, on the union of that Company with the Hudson Bay Company, passed over to the latter. Okonagan is situated on a poor, flat, sandy neck, about two miles above the junction of the river of that name with the Columbia. It is a square, picketed in the same manner as those already described, but destitute of bastions, and removed sixty yards from the Columbia. Within the pickets there is a large house for the reception of the Company's officers, consisting of several apartments, and from each end of it two rows of low mud huts run towards the entrance: these serve as offices and dwellings for the trappers and their families. In the centre there is an open space.

French is the language spoken here, as it is at all the other posts of the Company.

Half a mile above the mouth of the Okonagan, it was found to be three hundred feet wide: it is a dull, turbid stream. The Columbia at this place was found to be sixteen hundred feet wide.

Besides the care of the barges for navigating the river, and the horses for the land journey to the northern posts, they collect here what skins they can. The country affords about eighty beaver-skins during the year, the price for each of which is usually twenty charges of powder and ball. Some bear, marten, and other skins, are also obtained, for which the prices vary; and it appears to be the practice of the Company to buy all the skins that are brought in, in order to encourage the Indians to procure them. At Nisqually, Mr. Anderson informed me that many were bought that were afterwards destroyed, as they were not worth transportation.

At this post they have some goats, and thirty-five head of very fine cattle, which produce abundance of milk and butter. Neither of these are yet permitted to be slaughtered, and the only animal food used, is a species of rat, called "siffleurs," which burrows among the stones on the hill-sides in great numbers. These the Indians catch and sell for a leaden ball: they were found very fat, and considered good food by our party. The soil is too poor for farming operations, and only a few potatoes are grown. There is generally a supply of provisions on hand here for the parties that are passing to and fro.

There is also another post, called Fort Thompson, on the Kamloops Lake, which is in charge of an Indian, and is of less importance than Okonagan.

On the morning of the 9th, Mr. Maxwell, one of the Company's officers, arrived from Colville, with forty horses laden with provisions, for Mr. Ogden's brigade. He was not a little surprised to find strangers in the country, and in possession of his quarters at the post. He was obliging enough to offer any assistance that he could render, and, in conjunction with Le Pratt, endeavoured to supply all the wants of the party.

The Okonagan tribe of Indians are supposed to number about two hundred, and are represented as quiet and peaceably disposed. Their food consists principally of salmon and a small fish which they call carp; but they are not provident enough to lay up a sufficient supply for their winter's stock, and are obliged, for the remainder of the year, to make use of roots, and a bread which is made from the moss that grows on the trees. This moss is collected in large quantities, cleaned, and then placed in a hole made in the ground, along with heated stones, which are all covered up closely with earth. In this hole the moss remains for twenty-four hours. When the pit is opened, it is found to have become soft. After this process, it is washed and moulded into cakes, which are set out to dry. The seed of the Balsamoriza (Oregon sunflower), is also used here, being pounded into a kind of meal, which they call mielito. To this is added the siffleurs; but with all these articles of food, much suffering is experienced towards the spring.

The Company's servants at the northern posts suffer almost as much at times, although they are provided and attended to by the officers: they live mostly upon salmon. The difficulty of getting provisions to the posts in the interior is very great; all that is consumed at the north is carried twenty-four days' journey on pack-horses, and eighteen in barges, before it arrives at its destination; and the amount transported is not more than enough to supply the officers, whose allowance is very limited. The servants of the Company receive an increased pay as some recompense for their privations.

The chief amusement of the Okonagan tribes of Indians in the winter, and during the heat of the day in summer, when they are prevented from taking salmon, is a game called by the voyageurs "jeu de main," equivalent to our odd-and-even.

The latitude, as given by Lieutenant Johnson's observations, place Fort Okonagan in 48° 12′ N.

In the vicinity are found many wild fruits, consisting of gooseberries, June-berries, and currants, which, at this time, 9th of June, were beginning to be ripe.

On the 10th, at noon, they crossed the Columbia to rejoin their horses, where they had been left to graze, during the two days they had remained at the fort.

Lieutenant Johnson rode on some distance before the party, who lost sight of him in rounding a hill. His horse some time afterwards came galloping towards them, without any saddle; but thinking that he had found a good camping-place, they continued on until sunset, when they encamped at a small stream. Supper was prepared and eaten, but Mr. Johnson did not appear. Becoming uneasy, the sergeant and Pierre Charles were sent in search of him, and signal-guns were fired at short intervals till 11 P. M., when they returned without any news of him. Early the next morning, a party again left the camp in search of him, and at nine o'clock he was discovered fast asleep, where he had been since the previous afternoon.

The Columbia, in the neighbourhood of Okonagan is very winding in its course, and is interrupted by dalles about five miles above.

On the 11th, their route lay over the grassy prairie before spoken of, in which they saw a few pools of water. In a salt marsh were found some singular plants, and the crusted salt on the surface had very much the appearance of hoar-frost. In other respects, the route was uninteresting. Mount St. Pierre, before noticed, was seen, with its dome-like summit, and its height was estimated at eighteen hundred feet. The distance made this day was fourteen miles, and they encamped in an open plain, within three miles of the Grande Coulée.

On the 12th, they reached the Grande Coulée. The common supposition relative to this remarkable geological phenomenon is, that it has once been the bed of the Columbia, and this is what would strike every one at its first view; but, on consideration, it is seen that it is much too wide, and that its entrance is nearly choked up by the granite hills, that do not leave sufficient space for the river to flow through. The walls of the Coulée consist of basaltic cliffs, similar to those of the Palisades of the Hudson, seven hundred and ninety-eight feet high; and where it was crossed by the party, it was three miles wide; but, a few miles farther to the south, it narrowed to two miles. Its direction was nearly north and south, for a distance of at least fifteen miles. In places, the cliffs were broken, and appeared as though tributary valleys had been formed, in like manner, with perpendicular walls, though but of short extent. In the northern portion of it were several granite knolls, resembling islands, capped with basalt, and called Isles des Pierres. The bottom of the Coulée is a plain, having some irregularities, but in places, for two miles together, to appearance it was perfectly level. There are in it three lakes: one on the top of the west border, another after descending, and a third between two of the granite islands. The last of these was the largest, being about a mile long, but is not more than three hundred feet broad: these lakes have no visible outlets. Although the soil abounded in the same saline efflorescence that had been remarked on the high prairie, yet the lakes were found to be fresh, and wild ducks were seen in great numbers. In other spots, the earth was damp and overgrown with a rank grass, of the same kind as that growing on the prairie. Next to this, the wormwood predominated.

In the level places the earth was much cracked: incrustations were abundant, which, sparkling brilliantly in the sun, gave the plain somewhat the appearance of being covered with water. Specimens of these were procured, the analysis of which will be found in the Geological Report.

The granite islands, above spoken of, were found to be seven hundred and fourteen feet high. Mr. Johnson named the southern one the Ram's Head. Dr. Pickering, who visited the north part, found no regularity of structure. All were satisfied, after leaving the Coulée, that it had been the seat of a lake, in the northern branch of which, some convulsion had caused a breach, through which it had discharged itself into the Columbia. If the Columbia had ever flowed through this channel, it must have worn the rocks, but they exhibit no signs of any such abrasion; and yet it seems remarkable, that the Coulée had extended from one point of the river to another, and, with the exception of its breadth, forming very much the same kind of trench as the Columbia would leave, if it forsook its present channel.

From the observations subsequently made at the lower end of the Grande Coulée, there is, however, reason to believe that it was at one period the bed of the Columbia. The fact of there being large boulders of granite at its lower or south end, while there is no rock of similar kind except at its north end, would warrant the conclusion that they had been brought from the upper part of it. There were a great number of stones, having the appearance of being water-worn, lying in its bed, at the south end, as if they had been brought down by the current of a rapid stream.

The Coulée is too much impregnated with saline matter to permit crops of grain to be raised on it; but it would be admirably adapted for the raising of cattle and sheep, there being abundance of water and plenty of good grass here, and for twenty miles on each side of it.

They left the Grande Coulée by passing up the east cliff or bank, at a place where it was accessible for horses, and which was much stained with sulphur. Soon afterwards, they were overtaken by Mr. Maxwell, from Okonagan, which place, although twenty-five miles distant, he had left in the morning. They rode five miles farther, and encamped at a small pool. Mr. Maxwell was kind enough to supply them with two horses, which enabled all the party to mount again.

On the 13th, they started at an early hour, and passed over a gently-rolling prairie country, affording excellent sheep-pasture, but entirely destitute of trees. During this day, Lieutenant Johnson met with another untoward accident: on getting off his horse, he neglected to tie him, and the beast ran off to overtake the rest of the party. The consequence was, that the artificial horizon was broken to pieces, with many other articles contained in his saddle-bags. After travelling fourteen miles, they reached the "Coulée des Pierres," where the prairie terminated. This has features somewhat similar to those of the Grande Coulée, the rocks being basaltic and precipitous. They passed through the Coulée for two miles, when, turning at right angles, two more miles brought them to the Columbia, whose banks were here thickly wooded.*

On the 14th, after pursuing the same general course as the river for four miles, over spurs of hills, they reached the Spokane, which was three hundred feet broad at its mouth, but which, like the Columbia, was at the time much swollen. Opposite to the mouth of the Spokane, there are rocks in the Columbia, beneath the surface of the water, which cause rapids; but there is no perceptible fall, and the barges shoot them without difficulty. By the assistance of some Indians, with two canoes, they crossed the river, and breakfasted on the opposite side. These Indians had a lodge close by, and were in number twelve, the greater part of whom were women and children. Many of the latter, like others they had met with, were secured upon boards, for which purpose, instead of cord, strips of skin were used. These Indians reported that no salmon had been caught, on which account they were living on a kind of carp. They had with them a number of dogs, which are kept about their lodges: these animals have but little to recommend them, for they are ill-shapen, and of a dingy white colour. Of these dogs but little use is made, for they are seldom employed in hunting, and the Indians never eat them; neither are any of them killed, however large the litter of puppies may be. They, however, cost nothing to keep, for they are not fed, except with the offal of fish and birds, which accounts for the wretchedness of their appearance.

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* On the banks were found a singular species of Trillium, almost stemless.

Lieutenant Johnson and Mr. Maxwell now determined to pay a visit to the missionaries who were stationed at Chimikaine, distant only half a day's ride. The rest of the party proceeded along the banks of the Columbia to Fort Colville, a post of the Hudson Bay Company, next in importance to Vancouver. While pursuing this object, they lost their way, and were forced to encamp for the night on the banks of the Columbia.

On the 15th, at 4 P. M., they reached Fort Colville, after having experienced some difficulty in riding their Indian horses up to the gate; for the wagons, poultry, pigs, cabins, and other objects of civilization, excited no little alarm to their animals.

In the mean time, Lieutenant Johnson, in company with Mr. Maxwell, proceeded up the Spokane, which, for the first ten miles, has a course of east-southeast. The route passes through much fine scenery, and on the southern side of the river the hills form terraces, clothed with grass, and having a few pines growing upon them. The pines yield an agreeable shade, and the banks offer numerous beautiful sites for dwellings.

The river itself is pretty: its waters are transparent, and it is joined in its course by many bubbling brooks. To judge from the number of sheds for drying salmon, it must abound with that fish. The average width of the stream was about two hundred feet.

After leaving the Spokane, they rode in a northeast direction, over hills covered with pines, and through valleys rich with fine meadows; and, after a ride of thirty-five miles from the mouth of the Spokane, reached the missionary station of Chimikaine. Here they learned that neither of the two missionaries, Messrs. Walker and Eels, was at home, being in attendance on a meeting at Wallawalla. Their ladies, however, received the gentlemen with great hospitality, and though living in rough log huts, every thing about them was scrupulously clean; they were without any domestic help, but every thing was attended to that could add to the comfort of their guests. They both, with their families, seemed happy, cheerful, and contented with their situation.

Cornelius, or Bighead, whose native name is Silimxnotylmilakabok, is chief of the Spokane tribe—not by birth, but having gained the station by his shrewdness. With the title, however, he has acquired but little real authority, although he is the most influential of the Flathead nation; for his commands are often opposed with impunity by the lowest vagabond, and he himself is sometimes personally insulted without fear or danger of punishment. The dignity of rank, therefore, it will be seen, is not looked upon with much respect among these tribes. Cornelius is about sixty years of age, tall and slender, with a dignified carriage; has a thin, wrinkled face, and a far-retreating forehead. He has an expression of intelligence and self-possession, which impresses a visiter very favourably. He is represented as being very pious; and, as far as outward appearances and loud praying go, is certainly entitled to be so considered.

He gives an account of a singular prophecy that was made by one of their medicine-men, some fifty years ago, before they knew any thing of white people, or had heard of them. Cornelius, when about ten years of age, was sleeping in a lodge with a great many people, and was suddenly awakened by his mother, who called out to him that the world was falling to pieces. He then heard a great noise of thunder overhead, and all the people crying out in great terror. Something was falling very thick, which they at first took for snow, but on going out they found it to be dirt: it proved to be ashes, which fell to the depth of six inches, and increased their fears, by causing them to suppose that the end of the world was actually at hand. The medicine-man arose, told them to stop their fear and crying, for the world was not about to fall to pieces. "Soon," said he, "there will come from the rising sun a different kind of men from any you have yet seen, who will bring with them a book, and will teach you every thing, and after that the world will fall to pieces." Although there is not much reliance to be placed in the truth of this story, yet it shows the desire the Indians have to perpetuate the truth; and now that its actual fulfilment, as they say, has come to pass, it has acquired greater force, and is employed by them as an argument why the tribes should embrace the Christian religion. There is little doubt that the fall of ashes took place, for many traces of such phenomena are to be seen in all parts of the middle section of Oregon;* but they had knowledge of the whites long before the epoch designated. A proof that the white race was then known to them, may be cited in the person of a half-breed Canadian, who is now living at Colville, who had served under Burgoyne, and been fifty years in this country.† Besides the appearance of the Spaniards, and English under Cook, on the coast, the existence of white men must have become known through the intercommunication of the different nations.

Lieutenant Johnson left the mission the next afternoon for Colville, under the guidance of the son of Cornelius, and travelled through an extensive valley to the north, with hills on either side of from six hundred to one thousand feet in height. This valley is crossed by numerous streamlets and brooks, and appears to have a good and extremely fertile soil. The largest stream passed was one near Colville, on which the Hudson Bay Company have their grist-mill: this is about fifty feet wide. Within ten miles of the fort, the house of the Company's storekeeper was passed, and near to it is found a species of white chalk or pigment, which is much used at the fort instead of the common lime whitewash, from which it is scarcely distinguishable. They reached Fort Colville late in the afternoon, and were all soon made to forget the fatigues of the journey by the kind attentions of Messrs. M'Donald and Maxwell, who had charge of the post.

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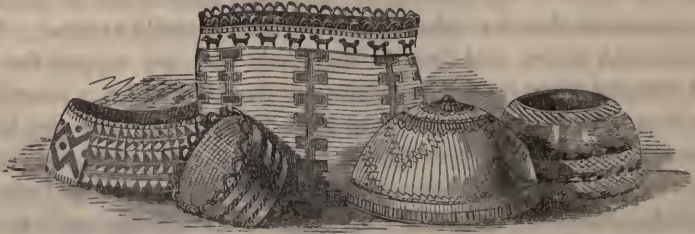
* Within the last year, the craters on the top of Mount Rainier and Mount St. Helen's have been in activity.

† This man is still hale and hearty, though pretty much of a reprobate. His story seemed to be credited by the officers of the Company at Fort Colville.



INDIAN BASKETS OF OREGON.

# CHAPTER XIII.

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# CHAPTER XIII.

## INDIAN TRIBES OF THE INTERIOR OF OREGON.

### 1841.

Lieutenant Johnson having reached Fort Colville with his party, it was determined that they should spend three days there, not only to refresh their horses, but to repair the damages which their saddles and packs had received. For these purposes Mr. M'Donald afforded every facility in his power, besides supplying all their wants; and received in payment of the articles he furnished, Lieutenant Johnson's orders upon the ship, to be collected through the authorities at Vancouver.

Fort Colville is situated on the east bank of the Columbia river, just above the Kettle Falls. In this place, the river, pent up by the obstructions below, has formed a lateral channel, which nearly encircles a level tract of land, containing about two hundred acres of rich soil. Of this peninsula, about one hundred and thirty acres are in cultivation, and bear crops, composed chiefly of wheat, barley, and potatoes. There are also raised small quantities of oats, Indian corn, and peas, but garden vegetables have never succeeded well. Their failure, however, is to be attributed either to bad seeds or unskilful management; for the soil, which is a rich black loam, mixed with a portion of gravel, seems capable of producing any thing.

The whole peninsula has the appearance of having been deposited by the river, and is believed to be the only spot of that character formed in its whole course.

There are two entrances to the fort, from one of which a road leads to the flour-mill; from the other there is a path extending along the bank of the river.

Fort Colville, like all the other posts of the Hudson Bay Company, is surrounded by high pickets, with bastions, forming a formidable defensive work against the Indians. Within the pickets all the dwellings and store-houses of the Company are enclosed.

The peculiar character of the soil renders Colville superior, for the purposes of cultivation, to any other spot on the upper waters of the Columbia.

The Kettle Falls are one of the greatest curiosities in this part of the country. They are formed by a tabular bed of quartz that crosses the river, and which, being harder than the rocks either above or below, has of course suffered less by abrasion, and thus formed a basin that renders the name appropriate. The total descent of the water is fifty feet, though the perpendicular fall in no place exceeds fifteen feet, which is, however, more than sufficient to prevent the passage of boats. At the foot of the falls the breadth of the river is two thousand three hundred and thirty feet, and the rate of the current is four miles an hour. This breadth is somewhat narrowed by an island, about midway of which is the first fall, which is almost entirely unbroken. Thence the river forces its way over a rocky bed until it reaches the main fall, where the water is thrown into every variety of shape and form, resembling the boiling of a kettle, from which the falls derive their name.

There is an Indian village on the banks of the great falls, inhabited by a few families, who are called "Quiarlpi," (Basket People,) from the circumstance of their using baskets to catch their fish, (salmon.) The season for the salmon-fishery had not yet arrived, so that our gentlemen did not see the manner of taking the fish; but as described to them, the fishing apparatus consists of a large wicker basket, supported by long poles inserted into it, and fixed in the rocks. The lower part, which is of the basket form, is joined to a broad frame, spreading above, against which the fish, in attempting to jump the falls, strike, and are thrown back into the basket. This basket, during the fishing season, is raised three times in the day, (twenty-four hours,) and at each haul, not unfrequently, contains three hundred fine fish. A division of these takes place at sunset each day, under the direction of one of the chief men of the village, and to each family is allotted the number it may be entitled to: not only the resident Indians, but all who may be there fishing, or by accident, are equally included in the distribution.

At the lower end of the falls are large masses of quartz rock, on which the Indians dry their fish. Few of the salmon, even if able to pass the lower fall, ever get by the upper one, being generally caught between the two falls; consequently, above this place no salmon are taken. A short distance below the Kettle Falls, are the Thompson Rapids, which begin at the mouth of Mill river, and extend for some distance below that point.

Fort Colville has been found to be two thousand two hundred feet above the sea, according to the officers of the Hudson Bay Company: the barometers of our party having been broken, it was no longer in their power to measure the height. This great rise takes place within the space of five hundred miles, and is unequalled in any other river of so great a size. The cultivation of crops is here the principal object of attention, for the whole of the northern posts depend upon Colville for supplies of provisions.

As to climate, this region has the reputation of being more rainy than the country below, but seasons occur when no rain falls. In the summer the temperature varies very considerably in the course of twenty-four hours, but they have kept no meteorological register, at least none was kept at the time of the visit of our party. The temperature in summer (July) rises to 100°, and falls to 12° in January and February. The winter commences in November, and ends in March. They frequently have flowers in February.

The time of planting the spring wheat is in April; the winter grain is sown in October, and succeeds best, particularly if the autumn should be a wet one. The crops of wheat are reaped in August. Indian corn is not a sure or good crop: it is planted in May and gathered in September. Potatoes, beans, and some oats, with two thousand bushels of wheat, are raised annually at this place.

Of fruits they have those of the country, such as the service-berry, strawberry, wild cherry, and the hawthorn-berry. These ripen from June till September. Imported fruit-trees have not as yet succeeded, and it is thought the spring frosts are too frequent and severe for them.

This post was established in 1825, at which time a bull and two cows were introduced from Vancouver, and from these have sprung one hundred and ninety-six head of fine cattle. They have likewise thirty mares with foal, and sixty grown horses. The horses are little used during the winter, and are usually turned out to shift for themselves. Care is, however, taken to keep them in places which are much exposed to the sun, and in consequence least covered with snow. Though represented as hardy animals, it is deemed prudent to get them into good condition before the winter sets in, to enable them to withstand its rigours.

The number of Indians actually resident about the falls, is one hundred and fifty; but, during the height of the fishing season, there are often nearly a thousand, consisting of all the Spokane tribe, who are generally included under the name of the Flatheads. They subsist for the most part on roots, fish, berries, and game. At the opening of the spring, in March and April, or as soon as the snow disappears, they begin to search for a root resembling the cammass, which they call pox-pox. This lasts them till the beginning of May, when it gives place to a bitter root, termed spatylon. This is a slender and white root, not unlike vermicelli in appearance, and when boiled it dissolves into a white jelly, like arrow-root. It has a bitter but not disagreeable flavour, and is remarkable for growing in gravelly soils, where nothing else will thrive. In June, the itzwa, or cammass, comes in season, and is found in greater quantities than the others, all over the country, particularly in the meadow-grounds. This root was thought by many of us to have the taste of boiled chestnuts Before this fails, the salmon make their appearance, and during the summer months the Indians enjoy a very plentiful supply of food. While the men are employed fishing, the women are busy digging the cammass, which may be termed the principal occupations of the two sexes. They devote a portion of their time to the collection of berries, a work which is principally the duty of the younger part of the tribes.

In September and October, the salmon still claim their attention: although they are, after having deposited their roes, quite exhausted and about to perish, yet these are dried for their winter consumption; and unless they had recourse to these, much want would ensue, which is always the case if the salmon should be scarce.

In October, they dig an inferior root, somewhat of the shape of a parsnep, that is called by the Indians mesani: it has a peculiar taste, and when baked is of a black colour. After this has disappeared, they depend upon their stores of dried food, and game, including bears, deer, badgers, squirrels, and wild-fowl; which they sometimes take in great quantities. These, however, fail them at times, and it then generally happens that their salmon becomes exhausted also, when they are obliged to have recourse to the moss, the preparation of which has been before spoken of, and which can be scarcely more than sufficient to sustain them until the spring again returns, and brings them the usual round of food. Like all savages, they are improvident, and take no thought whatever for the future. They are as prodigal in all other things as in their domestic economy, and frequently waste articles that might be quite useful if taken care of: their health suffers from the same cause. Notwithstanding, in all their usual concerns they are not devoid of sagacity, and frequent their different fishing-places and root-grounds regularly in the season, and follow the same mode of changing their residences, as has been heretofore noticed when speaking of the Nisqually tribe. They use in general the simple rush mats on poles for their tents in summer, which, with the few necessaries they have, are readily moved from place to place, on their horses. In this way, they pursue a regular round, and are to be found in the returning season, very near the same spot, if not actually on it. They ought, I think, to be deemed a wandering or nomadic race.

As far as our observations have gone,—and they have been confirmed by some of the intelligent officers of the Hudson Bay Company,—the Flatheads or Spokane tribe, hold an intermediate place, in their physical attributes, between the Indians of the coast and those of the Rocky Mountains. In stature and proportions, they are superior to the Lower Chinooks and Chickeeles tribe; but inferior to the Nez Percés. In bodily strength, they have been found much inferior to the whites.

Their usual dress is a shirt, leggins of deer-skin, and moccasins; all of which are much ornamented with fringes and beads. They wear a cap or handkerchief of some sort on their head: these, with a blanket, form their summer clothing; in winter, a buffalo-robe is added.

This tribe can scarcely be said to be under any general government; at least it is certain that none is regularly organized or acknowledged. They appear now to roam in small bands, as may best suit their temporary convenience; but these join for mutual support against their more powerful enemies, the Pikani or Blackfeet. In bygone days, these small tribes contended against each other with great bitterness; but by the beneficial influence exercised over them by the Hudson Bay Company, they have been induced to live together in peace, and intermarriages among the tribes now frequently take place; in which case, it is said, that the husband almost invariably joins the tribe to which his wife belongs, under the idea that among her own family and friends she will be better able to provide for her husband and children's wants. This also may proceed from the fact of the influence the women possess; for they always assume much authority in their tribe, and are held in high respect. They have charge of the lodge and the stores, and their consent is necessary for the use of them; for after coming into their possession, these articles are considered the women's own. Where such a state of things exists, it may readily be inferred that the domestic ties are not very weak; and they are reputed to have a strong affection for their children and nearest relatives. In this respect they are unlike the Nez Percés and some of the other tribes, and have always been remarked for their attentions and kindness to the infirm and aged, who are first to be provided for. One of their customs would, however, go to prove that these good qualities cannot exist in the degree in which some represent it. When an Indian of this tribe dies, leaving young children who are not able to defend themselves, his other relatives seize upon his property, and particularly the horses, which he may have left. The only excuse they offer for this kind of robbery and desertion is, that their fathers did so before them.

I have before said, that there is no authority recognised in their chief, at least so far as the power to inflict punishments for crimes or disorders is concerned. There is, however, often a principal man, who, from the circumstance of possessing wealth, intelligence, and character, and sometimes from birth, united, obtains a sort of control or chieftainship, and exercises an authority over others from his personal influence, ruling more by persuasion than by command through sanction of law. The extent of his authority must of course depend upon the individual's own temper: if he were a determined character, he might no doubt exercise very considerable power.

Punishment for crime is generally inflicted by the tribe, and frequently goes so far as to expel the delinquent; but I understand that the circumstances under which the crime was committed, have great influence in their decisions, and that they are for the most part just. Punishment is not by any means certain, an instance of which occurred in the case of Cornelius sending the very man with horses, which had been hired of him, who had the year before, on a similar errand, cheated him out of the stipulated pay. The chief had no redress for this wrong, and moreover, felt obliged again to employ the same person, from fear, as was supposed, of exciting the ill-will of his friends or tribe.

As respects the belief of these Indians in a Supreme Being, they had a very confused idea. Their ceremonies were connected with their superstitions, and one of the most remarkable of these was called "huwash." This results from the belief that the spirit within a person may be separated from the body for a short time, without the person being aware of it, or its causing death, provided it be quickly restored to him. This accident of losing the spirit is supposed to become first known to the medicine-man in a dream, who communicates it to the unhappy individual, and who, in return, immediately employs him to recover it. During a whole night the medicine-man will be engaged in hunting it up, passing from one lodge to another, singing and dancing. Towards morning, they retire into a separate lodge, which is closed up and made perfectly dark, when a small hole is made in the top, and the spirits descend through it in the shape of small bits of bone: these are received on a mat, a fire is made, and the spirits belonging to a number of their friends already dead, are picked out. The medicine-man then selects the particular spirit of each individual present, makes all sit down, takes the bone representing his spirit, and lays it on the head of the individual, among his hair, with many invocations and grimaces, till it is supposed to descend into the heart of the individual, and resume its former place. When all the spirits are thus restored, the whole party make a contribution of food, and a feast ensues, of which the remainder belongs to the medicine-man. If, perchance, in selecting the spirits of the dead, a living one should be taken up, it is thought that the living person would immediately die.

Tohua is the name of another ceremony, only performed early in the spring, for the purpose of insuring abundance of deer, fish, berries, and roots. This consists in taking up heated stones, and plunging them in water, out of which they draw them with their hands. It is only performed when they have eaten nothing for a day, or are, according to their acceptation of the term, "clean." If they have violated this rule, they believe that the hot stones will burn their fingers. This ceremony is said to last several days, and includes singing and dancing, walking barefoot and nearly naked about the village, and many other such like pranks. The medicine-men also enact the same kind of mummeries over the sick as have been heretofore described.

They have, in common with the other tribes, many traditions connected with the rivers and remarkable features of their country. In these the prairie-wolf bears always a conspicuous part. This wolf was not an object of worship, but was supposed to be endowed with supernatural powers, and to exert them in many ways. On one occasion, it is related that the wolf was desirous of having a wife, and visited the tribe on the Spokane for that purpose, demanding a young woman in marriage. This request being granted, he promised that the salmon should be abundant, and for this purpose he raised the rapids, that they might be caught with facility. After he had been gratified in this first instance, he made the same request of the others, among them, of the Sketsui (Cœur d'Alene) tribe, who were the only ones to refuse; he thereupon formed the great falls of the Spokane, which have ever since prevented the fish from ascending to their territory.

Among the Flatheads they have names for the months, corresponding to the lunations, which are connected with their habits, and the climate. They are as follows, viz.:

| | | |
|---|---|---|
| Sustiki, | | January. |
| Squasus, | cold, | February. |
| Skiniramen, | a kind of herb, | March. |
| Skaputsi, | snow gone, | April. |
| Spatylus, | bitter root, | May. |
| Staqumauos, | going to root-ground, | June. |
| Itzwa, | cammass-root, | July. |
| Să antylku, | hot; gathering brooms, | August. |
| Sclaṃp, | | |
| Sklues, | exhausted salmon, | September. |
| Skàài, | dry moon, | October. |
| Kinui-ctylyutiu, | house-making, | November. |
| Kumakwala, | snow moon, | December. |

Of the more northern part of the Oregon Territory, through the kindness of the officers of the Hudson Bay Company and residents, I obtained much interesting information, little of which has, I believe, been yet communicated to the public. I was as desirous as Mr. Hale himself, that he should make a trip to the northern posts of the Company, after our departure from the country, but there were serious obstacles which prevented his doing so. Besides, it would have caused him a detention of several months, or have exposed him to an arduous journey during the depth of winter, which he wisely determined to avoid.

The operations of the Hudson Bay Company over the northern portion of Oregon, which is included in their maps under the name of New Caledonia, are very extensive, and in this section they have nine posts.

At Colville, the number of beaver-skins purchased is but small, and the packs which accrue annually from it and its two outposts, Koutanie and Flathead, with the purchases made by a person who travels through the Flathead country, amount only to forty, including the bear and wolf skins. Muskrats, martens, and foxes, are the kinds most numerous in this neighbourhood. The outposts above-mentioned are in charge of a Canadian trader, who receives his outfit from Colville.

Fort Chillcoaten is a clerk's station, in latitude 52° 10′ N., on the Chillcoaten branch of Fraser's river. The Chillcoatens are a small tribe, numbering about sixty families, and only four packs of peltries are made by them. A pack is equal to fifty-five beaver-skins of large size: a beaver-skin costs one foot and a half of tobacco (rolled kind), or six are bought for a blanket.

At Fort Alexandria, in latitude 52° 30′ N., the point where the navigation of Fraser's river is begun by the northern brigade, on their way north, a chief trader resides. Twenty or thirty packs are made here, seven of which are beaver. A few cattle are kept at Alexandria, about which is the only small open space in the northern country that is cleared, the rest being covered with a dense forest, consisting principally of different species of firs, with some birch, willow, alder, poplar, and maple trees. The Niscotins are a small tribe, and number but twenty families.

Fort George is another station, at the junction of Stuart's and Fraser's rivers. It has a few cattle, and provides during the year a few packs. A clerk of the Company is stationed there.

Fort Thompson, on the Kamloops river, lies in 50° 38′ N., longitude 120° 7′ 10″ W. Fraser's, Babine, and M'Leod's, on the lakes of the same names, together with that of Fort St. James, on Stuart's Lake, the residence of Mr. Ogden, are all places of trade, and yield a profitable return for the expenditure and labour employed in maintaining them. All these, as I have before stated, are under the direction of Mr. Ogden, who is a chief factor, and has charge of the department of New Caledonia. The Company are now extending their posts to the northward, behind the Russian settlements, where an officer of the Company (Mr. Campbell) has been exploring. During the summer, the travelling in this country is performed on horseback or in canoes; but in winter, when the ground is covered to a great depth with snow, and the rivers frozen, the only mode of journeying is on snow-shoes, or in sledges drawn by dogs. These animals draw a weight of two hundred pounds. The snow-shoes require to be six feet long and eighteen inches broad; and notwithstanding the encumbrance they might be supposed to cause, it is not uncommon for individuals in the Company's service to travel for days together a distance of thirty-five miles a day.

This part of the country is inhabited by the two great nations of the north, the Takali, and Atnahs or Shouswaps: the former are also known by the name of the Carriers. The limits occupied by these two nations are shown on the map. The language of the Takali is a dialect of the great Chippewayan family, which, Mr. Ogden informs me, is spoken over the whole continent, as far as Hudson's Bay. They do not extend to the coast, but have frequent contests with the coast tribes about Fort Simpson, although they never have actual war. On the east are the Siconi, who are a nation of hunters, living beyond the Rocky Mountains. They speak a dialect of the same language, but are totally different in their customs and character from the Carriers.

The latter, indeed, differ from all the tribes around them, and the great family to which their language points them out as belonging. They are described as being of a lighter complexion than the more southern tribes. Their features are larger: this is particularly the case with the females. They somewhat resemble the Indians of the Columbia, but are a taller and better-looking race. The Carriers are excessively filthy in their habits, and they have the character of being equally depraved and prone to sexual indulgences. Among the women, chastity is said to be unknown. They are proverbially barren, and almost every individual is infected with that loathsome disease, the venereal. Abortion is constantly practised among them, both before and after marriage.

Formerly they dressed in robes made of marmot-skins, which are taken in great quantities on the Rocky Mountains. They are now clothed in articles of European manufacture, and obtain a plentiful supply of them.

Their houses are built after the fashion of log cabins, of small pine saplings, which are kept in an upright position by posts. The roof, unlike those of the southern tribes, is of bark. Their summer houses are often as much as seventy feet long, and about fifteen feet high. In winter they occupy dwellings of less size, which are often covered with grass and earth. Some of them live in excavations in the ground, which they cover with earth, leaving only an aperture in the roof, which serves both as an entrance for themselves, and as a vent for the smoke.

They live chiefly upon salmon, although there are some other kinds of fish which they take. They obtain, by hunting, a few deer, bears, and some smaller animals, which they eat or sell. Great numbers of wild-fowl, which, at times, almost cover their rivers and lakes, are captured by them.

They all prefer their meat putrid, and frequently keep it until it smells so strong as to be disgusting. Parts of the salmon they bury under ground for two or three months to putrefy, and the more it is decayed the greater delicacy they consider it.

Like the rest of the Indian tribes, they have their own peculiar manner of taking the fish, which is quite ingenious. For this purpose they build a weir across the stream, having an opening only in one place, at which they affix a basket three feet in diameter, with the mouth made somewhat like that of an eel-trap, through which alone the fish can find a passage. On the side of this basket is a hole, to which is attached a smaller basket, into which the fish pass from the large one, and cannot return or escape. This is soon filled, and becomes closely packed by their rushing into it, when it is taken up and replaced without disturbing the larger one.

They have some kind of roots or vegetable food, which with the berries, are formed into cakes. They are exceedingly fond of oils, and drink large quantities of them, which they procure from fish, bears, &c. These they also use outwardly, mixed with coloured pigments.

The most remarkable custom of these Indians that was related to me, is the manner in which they conduct their funeral rites. If a man dies leaving a widow, she is subject to undergo an ordeal, perhaps as severe as any of the savage practices that prevail elsewhere on a similar occasion. The corpse is always burned; the funeral pile is built and the body placed upon it, and while the fire is lighting, the widow is compelled by the relations of the deceased to lie on it until the heat becomes intolerable; and if she attempts to break out, they not unfrequently thrust her back, when she is often severely burned. At other times she is obliged to pat the breast of her husband until it is consumed, by which she suffers, and not unfrequently falls into the flames without receiving any assistance from the bystanders. After the body is consumed, she is obliged to collect the ashes and deposit them in a small basket, which she must always carry about with her. She afterwards becomes the servant or slave of his relations, who exact of her the severest labour, and treat her with every indignity. This lasts for two or three years, at the end of which time a grand feast is given by the relatives, when the ashes are put into a box, which is placed on a post ten feet high, daubed with representations of animals, men, &c.; there they are allowed to remain until the post decays. The widow is now released from servitude, and is at liberty to marry again.

This tribe, like the others, has priests or medicine-men, who practise incantations. When a body is burned, the priest pretends to receive the spirit of the deceased into his hands, which he closes with many gesticulations. This spirit he is thought to be able to communicate to others living, and when he has selected the person, he throws his hands towards him, and at the same time blows upon him, after which the person takes the name of the deceased, in addition to his own. In case of the death of a chief, or man of higher rank, this belief affords the priest an opportunity of acquiring much influence, and perpetuating his power and consequence.

Fraser's river takes its rise in this region, and flows through it. The country is also well watered by the numerous streams flowing from the mountains. The Company's party never navigate the Fraser's river below Fort Thompson. Sir George Simpson, who passed down it in 1828, stated that he found the navigation so dangerous and difficult that it was almost totally impracticable. If it had offered any facilities for navigation, the distance it would have saved in the transportation of their goods for the northern posts, would have caused the adoption of the route. This will readily be perceived by simply estimating the distances. From Vancouver to Okonagan is three hundred miles by water, with four portages; and from Okonagan to Fort Thompson by land, one hundred and fifty miles; thence to Fort Alexandria, one hundred and twenty, and as much more to Fort St. James, one hundred and twenty miles: total, seven hundred and twenty miles, that occupy nearly sixty days in travelling, two-thirds of which time is employed in going from Fort Okonagan to Fort St. James. This distance, without loads, and with expedition, may be travelled in twenty days.

The climate of this northern section of country is unfavourable to agriculture, in consequence of its being situated between two ranges of mountains, the Rocky Mountains on the east, and the extension of the Cascade Range on the west. Both of these are constantly covered with snow, notwithstanding which, the climate is said not to be remarkably severe. Snow, however, lies on the ground from November till April or May, and on an average six feet deep. From the end of May till the beginning of September, fires can be dispensed with; for the rest of the year they are necessary.

There are many spots of fertile land along the rivers, but the early frosts are a great obstacle to agriculture. Potatoes, turnips, wheat, and barley, are, however, raised at Fort Alexandria and Fort George; but at the more northern, as St. James, Babine, and Fraser's, only the two former vegetables can be cultivated. Cattle are now in considerable numbers at most of the posts.

On the 19th, Lieutenant Johnson was prepared to depart, with his party, having recruited his horses and mended his accoutrements. The kindness of Messrs. M'Donald and Maxwell supplied all their wants, and enabled the party to leave Colville in a better state than they had originally departed from Nisqually.

To these gentlemen my thanks are especially due for their attentions to the officers, who all spoke in high terms of the kindness they received. After their departure, they found that the ladies of the establishment had been equally mindful of their comforts, in not only filling their haversacks, but in supplying them with moccasins.

The latitude was ascertained, by observations at the fort, to be 48° 36′ 16″ N., longitude 118° 04′ 00″ W.

After leaving the fort, they pursued a southerly direction, for the missionary station of Chimikaine. This is called after the name of the plain in which it is situated, which is translated "The Plain of Springs," from the fact that, a few miles above the mission station, in the valley, the streams lose themselves in the earth, and after passing under ground for about five miles, burst out again in springs.

At the time of their visit to the Kettle Falls, the Indians were employed in spearing the salmon, which is almost the only mode used for taking them during the first of the season. In this they are very expert; and to see an Indian thus engaged, is an interesting sight. He stands on the edge of the foaming pool, with his spear poised and pointed, his body in constant and graceful motion, and his eye intent upon his object. When he discovers a fish within reach, he instantly darts the spear with unerring aim, and secures his prize.

They arrived at the station at a convenient hour, and found that the two gentlemen of the mission had returned, and now united with their wives in as warm a reception as the latter had given them on a former occasion.

The ladies of this mission, with some others, had travelled across the Rocky Mountains from the United States. The missionaries had brought cattle with them, and had been now settled here for two years. I understood that their presence had been not only of much advantage to the Indians, who had profited somewhat by their example, but also in a greater degree to the officers of the Hudson Bay Company, by affording them an opportunity of educating their children, and instructing them in the art of the dairy.

According to Mr. Eels, the Indians are glad to have whites settle among them, that they may procure by that means the "fine things" which they so much covet. The conclusion they come to is, the more the whites come the more they must receive. They are particularly partial to the Bostons, and frequently refer back to the time when there was rivalry in the trade.

The missionaries represent the Indians as being very easily actuated by impulses, and impatient of restraint; but that, though quick-tempered, they are not sullen: a revengeful spirit is always discouraged,—indeed it is esteemed a merit to be patient under an injury. Public opinion has a very powerful influence upon them, and few savages are more susceptible of ridicule, to the utterance of which their language is peculiarly adapted. Although there is but little government in families, still they are well behaved; and it is proverbial that they seldom quarrel among themselves. Generosity and wealth are the two qualifications that give most consequence; after these, comes noble blood.

Their adoption of names is arbitrary, and a fortuitous circumstance is frequently seized upon to gratify the passion for a change. The first name they bear is generally taken from some circumstance at the child's birth, and in after life others are added to the first, and there are few individuals but are well supplied with them.

The missionaries have succeeded in inducing many of the Spokane tribe of Indians to reside near them, which affords an opportunity of attending to their temporal wants, as well as of giving them instruction.

On their way, they met a party of Pend' Oreilles Indians, digging the cammass-root. Some of these were purchased that had been cooked with the Oregon sunflower, which imparted to them the taste of molasses.

Shortly after their arrival, they were joined by two Canadian free trappers, whom our party was desirous of procuring as guides; but it was soon found that they were ignorant of the country, and not trustworthy.

The customs of the Indians, in relation to the treatment of females, are singular. On the first appearance of the menses, they are furnished with provisions, and sent into the woods, to remain concealed for two days; for they have a superstition, that if a man should be seen or met with during that time, death will be the consequence. At the end of the second day, the woman is permitted to return to the lodge, when she is placed in a hut just large enough for her to lie in at full length, in which she is compelled to remain for twenty days, cut off from all communication with her friends, and is obliged to hide her face at the appearance of a man. Provisions are supplied her daily. After this, she is required to perform repeated ablutions, before she can resume her place in the family. At every return, the women go into seclusion for two or more days.

When in childbirth, they are still more hardly treated, being required to keep strictly to the hut, whence they are not suffered to be moved, however ill they may be. Death often ensues in consequence.

In case of illness, very few comforts are allowed the sick, in consequence of the custom that all the garments about a death-bed must be buried with the body. They have no medicines, except for sores or wounds.

The conjurors, or medicine-men, are employed to cure diseases, and they have practices similar to those mentioned in speaking of the Nez Percés.

After death, burial takes place within a few hours. The corpse is washed, wrapped in skins, with the legs doubled up, and then put into a grave three feet deep, which is surrounded and covered with stones and sticks, to prevent the wolves getting at it.

Widows are not allowed to change their dress for a whole year.

The men may take and put away their wives at pleasure, and both parties may marry again. The greatest requisite sought for in a wife is her capability of providing food. Polygamy was and is still practised. Where this is the case, or where many families reside in the same lodge, each family or wife has a separate fire. In marriages, permission is first asked of the chief, then the consent of the parents is sought for, and afterwards that of the intended. If she object, it is conclusive; if acceptance takes place, the groom gives from one to five horses to the bride's parents, they have a pow-wow, and the marriage is concluded. They are often espoused in infancy, but it is not considered as binding on either side. The squaws sometimes make proposals to the men. In other cases, young girls are contracted for, and the price paid down, some years in advance of the marriageable age.

The missionaries had, as I understood, adopted the following rule in relation to these connexions: all who already had wives were required to maintain them, but no new ones were to be taken. In consequence of this regulation, there have been no new instances of polygamy.

The number of Indians that are supposed to speak dialects of the Flathead language, is thought by the missionaries to be about five thousand. Their weapons have been bows and arrows, which they still use for small game: the arrows have iron points, but they use guns in preference for killing the larger animals.

On the 21st of June, at 3 P. M., the party left the mission, being accompanied on their way several miles by Mr. and Mrs. Walker. After riding ten miles in a southerly direction, they reached the Spokane river, and found it but one hundred feet wide, with a current of three and a half miles an hour. They swam their horses across, and passed over themselves and luggage in a canoe, which is always left at this point, to ferry persons over.

The formation of the country was now lava or trap, of which rock the latitude of 48° N. seems to be the limit, after which it gives place to granite. This was found to be the case also in the Straits of Fuca, where the same parallel is the dividing line of the two rocks; and, as far as our opportunities and information went, there seems to be but little doubt that this line extends from the sea-coast to the Rocky Mountains. We may, therefore, confidently state, that the whole portion of the Oregon Territory to the south of the Spokane, is of igneous formation: it is comparatively level, and offers a fine example of the old-fashioned flinty trap.

The tract of country from the mission to the Spokane is rather sterile, and but thinly wooded, with spruce, larch, and pine, neither of which is of great size. The banks or margin of the river, for some distance on each side, is formed of sand and gravel, with a few alder and willow bushes. The old chief, Bighead, joined the party here.

On the 22d, they travelled thirty miles in an east-northeasterly direction, from the Spokane. The country they passed over would be called hilly, with lakes and open glades intervening: the soil was poor, with sand and stones; a few scattered pines were seen on the hills, and around the lakes were cotton-wood and willow bushes.

On the 23d, after travelling five miles, they reached a camp of Spokane Indians, in number about three hundred, at the entrance of a fine meadow, where they had a number of horses feeding, while they were procuring the cammass-root. The number of lodges was twenty, some of which were conical, and of buffalo-skins. With this party were an Indian and a Canadian Frenchman, both of whom spoke English intelligibly. As the party entered the camp, a stout savage seized one of the horses, which he claimed as having belonged to him, and which he said had been stolen. Evidence was subsequently produced that the fellow had lost the horse by gambling, of which all these Indians are notoriously fond.

The horse had been purchased near Colville, for a musket. The party remonstrated against this violent seizure, through the Canadian, upon which the Indian relinquished the bridle, walked directly up to his lodge, loaded his rifle, and was about to shoot either horse or rider. Two of the gentlemen instantly stepped up to him, with their guns ready, telling him if he pointed his gun at any one, they would blow his brains out. On this he explained that his intention was to shoot the horse, but he was now afraid to do this; and the affair was settled by a few presents. The party at once passed quietly through the camp, and were glad to be rid of such troublesome neighbours.

In the afternoon, they passed through a rich and fertile valley, running in a southwest and northeast direction, in which the horses sank in clover up to their knees; and this day they made twenty-eight miles.

Among the beasts belonging to our party, was a spotted horse, which the Indians were extremely desirous of procuring, as it was a favourite kind with them; but their offers did not prove equivalent to his value. On the other hand, the party succeeded in purchasing a horse from the Indians, which they much required, but which afterwards turned out to belong to the Hudson Bay Company, having been stolen from them. Horses with the Indians are considered the sign of wealth, and are prized accordingly. One of their great amusements is horse-racing, in which their gambling propensities have full sway. Notwithstanding that horses are the great source of contention and difficulty between the whites and Indians, it is said that little or none occurs between themselves, and that they are not prone to commit depredations on each other. This may be owing to the apprehension that the difficulty would not only involve the individual, but the whole tribe, which is a necessary consequence among uncivilized people.

Several of the Indians at the camp through which they passed, were well dressed in robes obtained by themselves from the buffaloes; for these Indians, as well as others from the Oregon, near the coast, visit the buffalo-grounds annually.

The Indian, who spoke good English, stated that he had been five years at the white man's settlement. On his return he was made chief, and at that time his authority was great in the tribe; but now, owing to his propensity for gambling, he has lost all his influence.

On the 24th, they passed through a fine rolling prairie country, producing very fine pasture, and being well watered, though destitute of wood. The distance made to-day was thirty miles. The plants seen were Convolvulus, Frasera, Habenaria, Calochortus, Baptisia, and Trifolium: this last is a good plant for cattle.

During the day, they met a party of Indians travelling, with abundance of spare horses, and in this case they were carrying even their tent-poles, with which one of their horses was loaded: a proof that underwood of the description used is scarce in the country. Within thirty miles of Lapwai, the mission station on the Kooskooskee, they crossed a small tributary of the Snake river, thirty feet wide and two deep. It was very winding, and its general course was southwest. About twenty miles distant, in a south-southeast direction, they discovered a high snowy peak, which is situated near the Grande Ronde, and is the highest point of what is termed the Blue Ridge. On its summit the snow remains all the year round.

Beyond the Snake or Lewis river, was a long even-topped ridge, wooded on its upper parts, and covered with snow. This is the mountain which Mr. Drayton ascended near the Wallawalla. From the northwest, it has the appearance of an extensive and elevated table-land.

On the 25th, about noon, they reached the Kooskooskee, which is two thousand feet below the plain they had been travelling on. It is here eight hundred feet wide, and a powerful stream. Lewis and Clarke fell upon this river about forty-five miles above this place, and it is not difficult to imagine how they were induced to suppose that they had reached the great river flowing to the west, so totally different is it from the Ohio and Missouri. The missionaries informed me, in explanation of this, that the Indians have names for all the nooks and points along the rivers, but none for the rivers themselves: they further state, in reference to these travellers, that when they made their appearance, the Indians for some time doubted whether they were really men, so overgrown were they with beards, and of course so different from this beardless race.

Mr. Spalding has built himself a house of two stories, with board floors, as well as a grist and saw mill. For these he procured the timber in the mountains, and rafted it down himself; in doing which he has not neglected to attend to the proper sphere of his duties, for his labours will compare in this respect with those of any of his brethren. His efforts in agriculture are not less exemplary, for he has twenty acres of fine wheat, and a large field in which were potatoes, corn, melons, pumpkins, peas, beans, &c., the whole of which were in fine order.

This part of Oregon is admirably adapted to the raising of sheep: the ewes bear twice a year, and often produce twins. One ewe was pointed out to our gentlemen, that had seven lambs within three hundred and sixty-three days. Horned cattle also thrive, but the stock is at present limited. The Indians have a strong desire to procure them. A party was persuaded to accompany a missionary, and take horses over to St. Louis, to exchange for cattle. When they reached the Sioux country, the chiefs being absent at Washington, they were attacked and all murdered, except the white man.

Mr. Spalding, during his residence of five years, has kept a register of the weather: this he was kind enough to present to the Expedition, and it will be found in Appendix XIII. Mr. Spalding regards the climate as a rainy one, notwithstanding the appearance of aridity on the vegetation. There is no doubt of its being so in winter, and even during summer there is much wet. A good deal of rain had fallen the month before our visit. The nights were always cool. The temperature falls at times to a low point. On the 10th of December, 1836, it fell to —10°; and subsequently was not so low till the 16th of January, 1841, when it fell to —26°; and on the 10th of February, it was as low as —14°.

The greatest heat experienced during his residence was in 1837: on the 23d July, in that year, the thermometer was 108° in the shade. In 1840, it was 107°; and in the sun, it reached 144°. The extreme variations of the thermometer are more remarkable, the greatest monthly change being 72°; while the greatest daily range was 58°. Mr. Spalding remarks, that, since his residence, no two years have been alike. The grass remains green all the year round. In their cultivation, irrigation is necessary; and the wheat fields, as well as those of vegetables, &c., were treated in this way. Indian corn succeeds well.

Among the other duties of Mr. Spalding, he has taught the Indians the art of cultivation, and many of them now have plantations. The idea of planting seeds had never occurred to the Oregon Indians before the arrival of the missionaries. Mr. Spalding kindly lends them his ploughs and other implements of husbandry: and on a difficulty occurring with some of them, he had only to threaten them with the loss of the plough, to bring the refractory person to reason. One of the Indians had entirely abandoned his former mode of life, had built himself a log cabin, and both himself and wife were neatly dressed in European costume. The women are represented as coming a distance of many miles to learn to spin and knit, and assist Mrs. Spalding in her domestic avocations.

Mr. Spalding gave his assembled flock some account of the Expedition, and a short sketch of the people we had seen, which the Indians listened to with great interest, and appeared to comprehend perfectly, with the aid of a map.

Mr. Spalding stated, that the number of Oregon Indians whom he had ascertained to have visited the United States was surprising. He informed our gentlemen that he had sent letters to Boston in eighty-one days from the Dalles, by means of Indians and the American rendezvous; and, what was remarkable, the slowest part of the route was from St. Louis to Boston. The communication is still carried on by Indians, although it was generally supposed to be by the free trappers. He considers that these tribes, both men and women, are an industrious people.

Our thanks were due to Mr. Spalding for his kindness in exchanging horses, which enabled our party to proceed more comfortably, and to carry forward their collections.

On the 26th, they left the mission at Lapwai, accompanied by the missionaries and their ladies, intending to visit some of the rude farms of the natives. These are situated in a fertile valley, running in a southerly direction from the Kooskooskee. The farms are from five to twelve acres each, all fenced in, and on these the Indians cultivate wheat, corn, potatoes, melons, pumpkins, &c. One of them, in the year 1840, raised four hundred bushels of potatoes and forty-five bushels of wheat. With part of the potatoes he bought enough buffalo-meat to serve him through the winter. All these lots were kept in good order, and several had good mud houses on them. The great endeavour of Mr. Spalding is to induce the Indians to give up their roving mode of life, and to settle down and cultivate the soil; and in this he is succeeding admirably. He shows admirable tact and skill, together with untiring industry and perseverance in the prosecution of his labours as a missionary; and he appears to be determined to leave nothing undone that one person alone can perform. In the winter, his time and that of his wife is devoted to teaching, at which season their school is much enlarged.

On their way, they fell in with some half-breeds, going to hunt buffalo. Among them there were four brothers, all fine-looking young men, and very much alike. Many of the Indians, as has before been remarked, visit the buffalo-grounds. These have been constantly changing, and, within the memory of many of the hunters, their limits have been very much circumscribed. From the accounts we received, these animals are not now found west of the Portneuf river, and their range has been materially changed since the arrival of the whites. Instead now of migrating to the south during the winter, they are reported as seeking a more northern clime, and are now found as far north as 64°: four degrees farther in that direction than their former range. This abandonment of their feeding-grounds is unknown in any other American animal, and may forebode their extinction at no very distant day.

At 3 P. M., after travelling fifteen miles, they reached the banks of the Snake river, at the forks. On their way down the Kooskooskee, they had met with numerous herds of horses belonging to the Indians; and here they found the owners, consisting of about one hundred and fifty persons. There was but one building, which was of a circular form and a hundred feet in diameter. It was built of rails or rough joists set on end, which supported a roof of the same material, and served the double purpose of sheltering the inhabitants and drying their fish. The different families were arranged around the walls in the interior. These Indians paid no attention to our party while passing, but soon after sent up two canoes, to ferry them and their luggage over the river; which being finished, they went away without demanding any thing for their services, and exhibiting a sort of independence, characteristic of this race when they think themselves well off or rich.

The party crossed the Snake river about a mile above its junction with the Kooskooskee: its breadth here was seven hundred and fifty feet, and its banks were destitute of trees and bushes. The Snake river abounds in salmon; but few are found in the Kooskooskee, in which the Indians say the water is too clear to spear salmon. A few miles below the junction of the two rivers, the Snake or Lewis river is bounded by a range of high basaltic columns, affording a fine specimen of that structure. Under these the party encamped, some twenty miles from Lapwai. The greater portion of the prairie they had just passed over, is only fit for sheep-pasture.

The Snake river is much inferior to the north branch of the Columbia, notwithstanding its length of course; but after it is joined by the Kooskooskee, it becomes much enlarged. It resembles the north branch in being sunk, as it were, in a deep trench, much below the level of the country; and its banks are even more naked than those of the Columbia.

On the 27th, they travelled forty miles, at first in a westerly course, and then southwest. The country was hilly, with deep valleys, in which there was water and an abundance of good pasturage. A few willow and alder bushes were all that were seen. In one of the valleys, they saw a considerable tract irrigated and under cultivation, and small patches of corn on the hill-sides. From the hills over which they passed, they had a view of a high even-topped ridge, on which there were trees of large size. On the north, beyond the Snake river, was an almost boundless expanse of level plain. The prairie that they passed over during the day, was observed to have lost its flowery character, and become altogether grassy.

On the 28th, they rode fifty-six miles, the first thirty-six of which was through a country of the same character as that they had passed the day before, but the last twenty took them over a sandy desert, on which the vegetation consisted only of wormwood. They reached Wallawalla before dark, and were kindly welcomed by Mr. M'Lean, one of the Company's clerks, who was in charge of that post.

On the 30th, Lieutenant Johnson joined them again. On his leaving the mission at Chimikaine, he had pursued an easterly course, along the Spokane river, until he reached the falls, of which there are four, three of ten feet, and one of forty, besides which there are rapids; and the whole fall of the river, within a distance of one thousand feet, is about one hundred feet. After travelling a distance of ten miles, both the distant mountains and prairies expanded to the view: the former rising ridge beyond ridge, while the latter exhibited a breadth of seven miles. The nearest range of mountains trends east and west. Six miles further on, they came to the Little Falls, and above them about six miles to the lake of Cœur d'Alene. The breadth of this lake is two miles, by five miles long, in an east-southeast and west-northwest direction. There is a smaller lake to the northward, half a mile in length. The mountains were of granite. A large number of inhabitants were seen, who used canoes of bark. Lieutenant Johnson then returned on his path for a few miles, and afterwards pursued nearly the same direction that the party had done before him. It is therefore unnecessary to repeat what has been before said of this route. He made the latitute of Lapwai 46° 27′ 00″ N.; and measured the width of the river, which was found to be four hundred and sixty feet.

There are a number of singular customs prevailing among the Nez Percés, perhaps a greater number than in any other nation of savages. That of overcoming the "Wawish," or spirit of fatigue, if it may be so translated, is the most remarkable; for this is a ceremony to enable them to endure fatigue, that has long been practised among them, and is still kept up. The operation continues for three, five, and seven days, and is often repeated. It is begun on the first day by taking three or four willow sticks, eighteen inches long, and thrusting them down the throat, in order to cleanse the stomach by bringing up bile, blood, and coagulated matter; a hole is then prepared, of a sufficient depth for a man to sit upright, with his head above the ground. This is usually dug near a running brook.

On the second day they fast, and collect other willow sticks, of one-eighth of an inch in diameter, the distance of the navel from the mouth being their length. These are slightly rounded and made smooth, and are passed down to the bottom of the stomach, which causes a severe irritation and vomiting, and is continued until it produces a burning sensation: this is repeated from time to time until noon, and not unfrequently as often as eighteen or twenty times. The number of sticks is diminished as the throat becomes sore. When noon arrives, they plunge into cold water, and remain there till evening, when they take half a pint of porridge.

The third day, a similar course is gone through.

On the fourth day, after heating a number of stones, they get into the pit, the water in which is heated by throwing in the hot stones, until it is no longer to be endured; they then plunge into cold water, and remain there slapping themselves until they are quite benumbed; they then again resort to the hot bath, and continue to pass from the one to the other throughout the day, during which they are allowed to eat porridge, but to take no drink.

On the fifth, sixth, and seventh days, the same operation is repeated, until 2 P. M., after which hour they eat largely, and satisfy both hunger and thirst. This treatment is said to be gone through several times by some of them, and after the probation, they deem themselves capable of enduring both heat and cold, of sustaining fatigue, of outrunning horses, pursuing game, and overcoming their enemies. If this is neglected to be performed annually, they believe that the system bebecomes easily fatigued, and Wawish is again their master.

This treatment generally begins at the age of eighteen, and is only discontinued when they have a large family, or have passed the most active age by reaching that of forty years; some, however, from a feeling of pride, are said to continue it much beyond this period.

The officers at Wallawalla mentioned, that some of the Indians had remarkable powers of undergoing fatigue, and instanced the case of one who performed the journey from Dr. Whitman's mission-house to the forks of the Clearwater, a distance of one hundred miles, between morning and sunset. This man is in the habit of performing this treatment on himself annually.

The Indians around Lapwai subsist for the most part upon fish, roots, and berries: the latter they make into cakes; moss is also eaten by them. Half of these Indians usually make a trip to the buffalo country for three months, by which means they are supplied with the flesh of that animal.

The school at the station has in winter about five hundred scholars, but in the summer not one-tenth of that number attend. Our gentlemen heard some of the pupils read. Only two are converts to Christianity, the principal chief and another; eight or ten, however, are reported as showing signs of piety.

The men are industrious, for Indians. The mission have a saw-mill at this place, capable of sawing three thousand feet per day.

The usual games of the Indians, which have been already described, are played here. The wages for the performance of any task are paid for in clothing, blankets, horses, &c.

Their salmon-fishing is conducted with much industry, and lasts from daylight until ten o'clock at night. Supper is their principal meal.

The scalps of enemies are taken in war, and the war-dance is always performed.

Girls are offered as wives to the young men by the parents: the ties of marriage are very loose, and wives are put away at pleasure. This privilege is also allowed to the women, which places the two sexes much more on a par than among the tribes west of the mountains.

The medicine men and women are much in repute here. Before any sorcery or divination is performed, they retire to the mountains for several days, where they fast, and where they pretend to have an interview with the waiakin or wolf. When they return, they relate the conversation they have had with him, and proceed to effect cures, &c. They are looked upon as invulnerable, and it is believed that balls fired at them are flattened against their breasts. If affronted or injured, they predict death to the offender, and the doom is considered inevitable. They use the same means of extricating diseases that have been before described.

Wild animals are now comparatively few, when compared with their former numbers. They consist of wolves, large and small, who prowl around the dwellings; lynxes, bears, of the gray, brown, black, and yellow colours, the former of which were the most numerous. Beavers and otters are now both scarce. Rats, both water and musk, are seen in numbers.

Mr. Hale, the philologist of the Expedition, who was left in the Oregon Territory, passed from Waiilaptu, the mission station of Dr. Whitman, to Chimikaine and Fort Colville, by the Peluse river, crossing the country over the middle sections of Oregon, about half way between the route the party under Lieutenant Johnson pursued to Lapwai. Mr. Hale describes the country as an upland plain, covered with herbage, but without trees. There were no running streams, but numerous ponds of fresh water. This is the most direct route to Fort Colville, and is that usually chosen by the servants of the Hudson Bay Company. It passes by the Peluse river, and follows its windings.

The falls upon this river are of some note, and are called Aputaput; and they will hereafter be an object of interest to travellers in this country. The river pours down, in a cataract of foam, through a perpendicular descent of one hundred feet, and is received in a basin, surrounded by basaltic walls, between two and three hundred feet in height. These falls are celebrated in Indian mythology. Among other legends, it is related that a woman of gigantic size lived in that part of the country, with four brothers of equal stature. She became very desirous of obtaining some beaver's fat, but whether for a delicacy or cosmetic is not known. At this time there was only one beaver, and that of enormous dimensions, inhabiting the banks of the Snake river. The brothers hunted him for a long time without success: many places along the river, in which he could harbour, were searched, but without finding his hiding-places. Finally, the animal was surprised at the mouth of the Peluse, which was then a peaceful stream, winding through an even channel. As the beaver retreated up the stream, he was pursued, and overtaken two miles from its mouth. At first they pinned him to the earth with their spears, but by a violent effort he broke loose and fled. This struggle produced the first rapids of the Peluse. A little farther up they again overtook the beaver, who again made his escape, by producing the second rapids; and lastly, where he was secured, his dying struggles gave rise to the great falls of the Aputaput. After killing him, and taking his skin and fat, they cut up the body, and threw the pieces in various directions, from which has arisen the various tribes in the region; among them the Cayuse, the Nez Percé, Wallawalla, &c. The Cayuse are said to have sprung from the heart, and became, in consequence, a strong and thriving people, which they continue to be to this day.

The party remained but a few days at Wallawalla. Their measurement made the width of the river at this point, two thousand seven hundred and sixty feet, but in it there are many small islets.

At Wallawalla, as before stated, there is no soil, even for a garden; but a spot of about fifty acres, three miles from Wallawalla, on the banks of the river Columbia, and called by the same name as the post, has been for some time past cultivated. On this is grown wheat, corn, peas, potatoes, &c. The garden embraces about two acres, where all the smaller vegetables had been sowed, but it was entirely neglected, and overgrown with weeds. The soil of this garden is a deep rich brown loam.

On the sandy plain about Wallawalla, as was to be expected, there are but few plants to be found. A Salsola, Opuntia, Dalea, Oberonia, and Rubiaceæ, with several Compositæ, were all that were found. Hares were seen on the prairies in numbers: these are larger than the English hare, had larger ears and limbs, and are of a lighter colour. They do not burrow, as has generally been supposed, but form a shallow seat or nest under the wormwood-bushes.

While they stayed at Wallawalla, Dr. Whitman came down to visit them, and kindly offered his services.

The diversity of languages heard during this jaunt, was very remarkable. The dialect seemed to change with almost every party of Indians they met with, and it was frequently necessary for words to pass through three or four different interpreters, before they could be comprehended, and an answer obtained. It was thought, at times, that every family must have a language of its own. It is difficult to account for this state of things. The tribes on the west of the mountains have been, for the most part, at peace with each other, and have had much intercourse, for the purpose of trading their fish and other articles; yet but few can understand their immediate neighbours.

One cause of this discrepancy may arise from the length of the Indian words, which are always abbreviated in talking. According to Dr. Whitman, the Indians of one tribe very soon pick up the language of another. He also stated that the Nez Percé dialect is fast gaining upon that of Wallawalla; and he thinks that the rising generation are inclined to a more general language.

On the 4th of July, they left the fort and crossed the river. The Columbia is here an imposing stream, and its waters flow in a rapid and powerful current. Mr. M'Lean's kindness and attention were similar to that already met with, and he provided them with the necessary horses, provisions, &c.

On the maps of the Oregon Territory, opposite Wallawalla, a volcanic mountain has been exhibited; but none exists here, nor on inquiry could any information be obtained of any such object in the country around.

The party now pursued the route up the river, and in two hours reached the Yakima, up whose valley they passed, encamping after making twenty-five miles. The country was rolling, and might be termed sandy and barren.

Mount St. Helen's, with its snow-capped top, was seen at a great distance to the west.

On the 5th, they continued their route, and at midday were overtaken by an Indian, with a note informing them of the arrival of Mr. Drayton at Wallawalla with the brigade. This was quick travelling for news in Oregon; for so slow is it usually carried, that our party were the first to bring the news of the arrival and operations of the squadron in Oregon. This intelligence had not previously reached Wallawalla, although it is considered to be on the direct post-route to the interior, notwithstanding we had been in the country nearly two months. The news of the murder of Mr. Black, in New Caledonia, was nearly a year in reaching some points on the coast.

This was one of the warmest days they had experienced, and the thermometer under the shade of a canopy stood at 108°. At a short distance from the place where they stopped was a small hut, composed of a few branches and reeds, which was thought to be barely sufficient to contain a sheep; yet under it were four generations of human beings, all females, seated in a posture, which, to whites, would have been impracticable. They had just procured their subsistence for the day, and their meal consisted of the berries of the dogwood. The scene was not calculated to impress one very favourably with savage life. The oldest of these had the cartilage of the nose pierced, but the others had not; leading to the conclusion that the practice had been discontinued for some years in the nation, who still, however, retain the name.

The country exhibited little appearance of vegetation; the herbage was quite dried up, and from appearances was likely to continue so throughout the season. The prevailing vegetation consisted of bushes of wormwood, stinted in growth, and unyielding.

After making thirty-three miles, they encamped among loose sand, one hundred feet above the water of the river. Many rattlesnakes were found in this vicinity.

Owing to the quantities of musquitoes, combined with the fear of snakes, the party obtained little or no rest, and were all glad to mount their horses and proceed on their way.

In the early part of the day, they arrived at the junction of the Spipen with the Yakima: previous to this they crossed another branch, coming in from the southwest; the waters of the latter were very turbid, of a dark-brown colour, and it was conjectured that it had its source at or near Mount Rainier. Along its banks was seen a range of basaltic columns. The Yakima was crossed during the day in canoes, the river not being yet fordable.

The country, which had for some days exhibited the appearance of the Tillandsia districts of Peru, had now begun to acquire a tinge of green, and some scattered pine trees had become visible. Some small oaks were passed, which appeared of a local character. This night they again had a number of rattlesnakes in their camp.

On the 8th, the valley had narrowed, and the banks becoming more perpendicular, they had a great many difficulties to encounter. They stopped at the camp of old Tidias, whom, it will be recollected, they had encountered after crossing the mountains, and from whom they obtained some horses. They soon afterwards arrived at the path where they had turned off to the north. The river had fallen very much during their absence, and there was a marked difference in the season, the vegetation being much more backward than in the parts they had recently visited. The berries were just beginning to ripen, while in the plains, not twenty miles distant, they were already over. Old Tidias determined to accompany them to Nisqually, taking with him his son, and lending them several horses. The Spipen, up which they passed, was now hemmed in by mountain ridges, occasionally leaving small portions of level ground. They encamped at the place they had occupied on the 30th of May.

The vegetation, since they had passed this place, had so much advanced that they had difficulty in recognising it again. The wet prairies were overgrown with rank grass, from one to two feet in height. After a short rest at the foot of the mountain, they began its ascent, and reached the crest of the ridge in about three hours. On every side they found a low growth of shrubs, which they had not suspected when it was covered with snow, and causing the summit to differ essentially from the broad ridge they had crossed between the Yakima and Pischous rivers. They encamped for the night on the edge of a wet prairie, which afforded pasturage for their horses.

The next day they passed through several similar prairies, and descended the western slope of the mountain, where they found more patches of snow than on the east side. This was just the reverse of what they had found on their previous passage; the season, too, was evidently much less advanced. This circumstance was supposed to be owing to the denser forest on the west, as well as the absence of elevated plains.

They encamped the same night at the little prairie before spoken of, at the foot of the western slope. Before reaching it, they met a party of men and women carrying a sick chief over the mountain, who was evidently dying. It was affecting to see him stretching forth his hand to them as they passed, as if desiring to be friends with all before he died. He died the same night.

The two next days it rained almost constantly, but they found the road much less difficult to travel than before, and the streams were fordable, which enabled them to make more rapid progress.

On the 13th, they passed the Smalocho, and on the 15th reached Nisqually, all well; having performed a journey of about one thousand miles without any material accident, except those that have been related as having occurred to the instruments. They traversed a route which white men had never before taken, thus enabling us to become acquainted with a portion of the country about which all had before been conjecture. They had also made a large addition to our collection of plants.

Besides the information obtained by the party, several old trappers were met with, who communicated many interesting particulars in relation to the eastern tribes of Oregon. These do not come within the direct object of my narrative, but they possess a sufficient degree of interest, and have reference to regions so little known, that I do not hesitate to give them a place, particularly as the facts are consistent with each other, and so well borne out by information collated from other quarters.

The principal tribe of Indians inhabiting the Rocky Mountains, are the Blackfeet. They are properly a collection of five tribes, that have become one nation, rather from the force of circumstances than by any premeditated plan, or natural bond of union. These five tribes are, the Gros Ventres of the prairie, who, however, are not to be confounded with the Gros Ventres of the Missouri, who speak the Crow language; the Pilgans, or Pikani; the Blood Indians; the Surcees; and the Blackfeet proper. The Pilgans, Blackfeet, and Blood Indians, speak the same language; while the Surcees and the Gros Ventres have one of their own. Their union took place within the memory of the oldest living members of the tribe.

The Gros Ventres are the most numerous, the Blood Indians next, then the Pilgans, and last the Blackfeet, who, however, in the year 1840, numbered nearly six hundred and fifty lodges. The whole number of the five tribes is supposed to be no less than twenty thousand; but this is doubtless much exaggerated. These tribes are constantly at war with their Indian neighbours, as well as with the whites; and although an impression has been entertained that the Blackfeet are hostile to the Americans alone, this is not the case, for they make no distinction between white men. I have been told by gentlemen of the Hudson Bay Company, that they are equally formidable to British traders, and have cut off a number of their trappers; yet, notwithstanding this, some whites are established among them, and have great influence in the nation; although they cannot at all times protect others who fall into their hands. It is dangerous for stragglers to pass through the country ranged by the Blackfeet, as it is said to be not uncommon for the tribe to have out thirty war-parties at a time.

From some of the officers of the Hudson Bay Company, I learned that there were many Delawares and Shawanese among the Blackfeet, and that the former, known by the name of the "Shaved Heads," were much dreaded by the other tribes. The Blackfeet appear to have obtained their reputation for prowess from the advantage acquired by the use of fire-arms, which they obtained sooner than the Oregon Indians, among whom they then made great havoc, and whom they inspired with corresponding fear. Since the latter, however, have also obtained these weapons, the disparity no longer exists.

The Blackfeet principally inhabit that part of the Rocky Mountains between the head waters of the Columbia, and those of the Missouri and Yellowstone rivers.

The Snakes, or Shoshones, are widely-scattered tribes, and some even assert that they are of the same race as the Camanches, whose separation is said to be remembered by the Snakes: it has been ascertained, in confirmation of this opinion, that they both speak the same language. The hunters report, that the proper country of the Snakes is to the east of the Youta Lake, and north of the Snake or Lewis river; but they are found in many detached places. The largest band is located near Fort Boise, on the Snake river, to the north of the Bonacks. The Snakes have horses and fire-arms, and derive their subsistence both from the chase and from fishing. There are other bands of them, to the north of the Bonacks, who have no horses, and live on acorns and roots, their only arms being bows and arrows. In consequence of the mode of gaining their subsistence, they are called "Diggers," and are looked upon with great contempt.

The Crows inhabit the country between the Wind River Mountains and the Platte; and are represented as not so hostile at present to the whites as the Blackfeet. The former are much the most shrewd and intelligent of the Indian tribes, and keep up a continual war with the Blackfeet and Snakes. The battle-ground of these three nations is about the head waters of the Platte, Green, and Snake rivers, or in the vicinity of Fremont's South Pass. Their proper, or Indian name, is "Upsaroka."

The Bonacks resemble the Snakes in their character and habits. They inhabit the country between Fort Boise and Fort Hall, and are considered as a braver people than the Snakes, with whom they are occasionally at war; but their particular enemy is the tribe of Cayuses.

The Sampiches are a tribe wandering over the desert south of the Youta Lake. Their language is said to be allied to that of the Snakes, and their habits to those of the "Diggers," or poorer Snakes.

The Youtas inhabit the country between the Snake and Green rivers. These also resemble the "Diggers" in appearance and mode of life, although their language is by some thought to be peculiar.

The barren country between the Youta Lake and the Californian range of mountains, is thinly inhabited by Indians, speaking the same language as the Bonacks. Mr. Newell, of the Willamette, has known Indians of these tribes acquainted with individuals of the Bonacks.

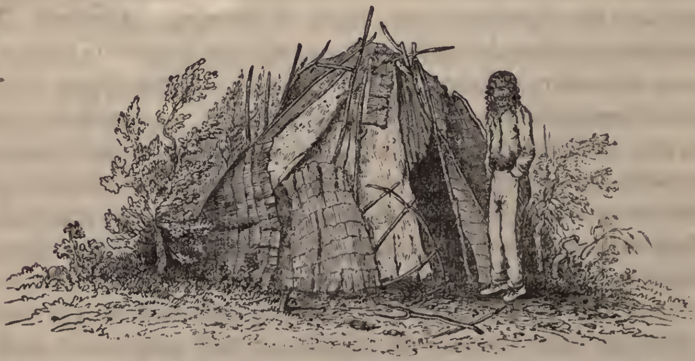
Southwest of the Youta Lake live a tribe who are known by the name of the Monkey Indians; a term which is not a mark of contempt, but is supposed to be a corruption of their name. They are said to differ remarkably from the other natives of this country; and the description of them has the air of romance, though it appears to be well substantiated by persons who have travelled in the direction of their country. But few have seen them, except the hunters of Mr. Walker's party who were with Captain Bonneville. They are reported to live in fastnesses among high mountains, to have good clothing and houses; to manufacture blankets, shoes, and various other articles, which they sell to the neighbouring tribes.

Their colour is as light as that of the Spaniards; and the women in particular are very beautiful, with delicate features, and long flowing hair. They are said to be very neat in their persons, dignified and decorous in their manners, and exceedingly modest. The story goes, that the hunters who saw them were so much pleased, that they determined to return and settle among them; but on their return to the Rocky Mountains, they were prevented by old associations. Some have attempted to connect these with an account of an ancient Welsh colony, which others had thought they discovered among the Mandans of the Missouri; while others were disposed to believe they might still exist in the Monkeys of the Western Mountains. There is another account, which speaks of the Monquoi Indians, who formerly inhabited Lower California, and were partially civilized by the Spanish missionaries; but who have left that country, and of whom all traces have long since been lost. Perhaps some future travellers may be able to discover them again, and give their true history; for that there exists a small tribe of different manners and habits from those who surround them, there appears to be but little doubt.

Though not immediately allied with my subject, yet some information which I obtained in relation to the Indians east of the Rocky Mountains, may be interesting. Between the Green and Arkansas rivers, are the Navahoes, and south of them the Apaches. These hover about the Spanish settlements, which they frequently ravage, and whence they carry off the children as slaves. The trappers informed us, that it was no uncommon circumstance to see among them, Spanish boys, still speaking their own language, serving as slaves; and handsome white girls, living as wives to the haughty Apache warriors.

One thing seems well established, that the tribes are gradually extending themselves to the southward, or rather, the more northern are encroaching on those of the south. It is well known, that what is now called the Blackfeet country was formerly possessed by the Snakes; and that the older men of the nation are well acquainted with this fact. The country now in possession of the Snakes, belonged to the Bonacks, who have been driven to the Sandy Desert. The Kiniwas and Camanches are instances of the same occurrence. This movement is attributed to the desire of each tribe to possess a more fertile soil and more genial climate; and to the exhaustion of game or emigration of the buffalo to the east. There are none of these animals now found west of the Youta Lake; and several years ago, according to the hunters, they deserted that region to range nearer the Rocky Mountains: the space between which and the then Butes is now the great buffalo country; and frequented by the Nez Percés, Bonacks, Snakes, and Flatheads, where these latter have frequent contests with the Crows and Blackfeet.

Those who have travelled the route from the United States to the Oregon Territory, seem to have but little dread for the war-parties of the Indians, who seldom now venture to attack any party of whites, however small. The great difficulty experienced by them, is in procuring food for their animals and themselves at the point where many other obstacles are to be overcome; but the way for the emigrant is far less toilsome, from the accounts of those who have gone through the hardships, than has been represented. It will not be many years before these difficulties will not be considered, and in all probability the new routes that will be found will render the travel much less fatiguing to both man and beast. One great impediment to the traveller, after this journey is performed, has been already removed; for, on his arrival in the Oregon, he now meets with his friends, and every thing that he can desire, to insure his comfort in a new country; instead of, as formerly, depending upon the precarious supply furnished by the Indians.



INDIAN MAT HUT.

# CHAPTER XIV.

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# CHAPTER XIV.

## DE FUCA'S STRAITS AND LOSS OF THE PEACOCK.

1841.

When Lieutenant Johnson returned with his party, I was still engaged with the boats in completing the surveys of the remaining arms of Puget Sound. Orders had been left with Lieutenant Carr, to have the ships prepared for sea against the return of the surveying party; and on the evening of the 16th June, when we reached the Vincennes, we found every thing ready for our departure.

Lieutenant Johnson was again ordered to fit out a party to proceed across the country to Chickeeles river, descend that river to its mouth, and make a survey of Gray's Harbour. The party, besides Lieutenant Johnson, was to consist of Passed Midshipman Eld, Mr. Brackenridge, Sergeant Stearns, three sailors, and two Indian guides. I had understood that the proposed route was practicable, although difficult and somewhat dangerous.

On the 17th, in the morning, we were prepared to sail; but the party of which Lieutenant Johnson was to take charge was not ready, that officer at the last moment declining to obey the orders, (on account of my directing the officer associated with him, Passed Midshipman Eld, to be consulted as to the propriety of abandoning public property, should it become necessary,) caused his arrest. These orders have been inserted in Appendix XIV., that all may be able to judge of their tenor. Passed Midshipman Eld was then ordered to take charge of the party, and Passed Midshipman Colvocoressis to accompany him.

We had already taken leave of Mr. Anderson and Captain M'Niel, and I have here to acknowledge the obligations we were under to them for many attentions, and particularly for the facilities they afforded us in the equipment of the land-parties, and the hospitalities they extended to both officers and crew.

The breeze sprung up at two o'clock, when the anchor was hove up and sail made. The change in the organization of the land-party delayed us for a short time, but the gentlemen whom I had appointed to it were ready in a few minutes, and left the ship, upon which we immediately bore away to the Narrows.

It is no more than justice to Messrs. Eld and Colvocoressis, to acknowledge the promptness and good spirit with which they undertook the duty thus unexpectedly assigned them, and I take the same occasion to state that the manner in which they performed their task, and overcame the many difficulties which impeded its execution, merit my warmest thanks.

It would be difficult to give the reader an idea of the anxieties that beset me at this juncture. Day after day had passed in the anxious expectation of receiving news of the Peacock and Flying-Fish, until a conviction became general, with both officers and crew, that some serious accident had occurred to one or both of them, among the dangerous coral reefs and islands they had been sent to explore. They were now three months later than the time appointed for their arrival at the Columbia river.

For my own part, after reviewing the whole of the duties assigned to Captain Hudson in my instructions, and again estimating the time necessary to fulfil them, I could not but apprehend, from the length to which his voyage was protracted, that disaster had occurred. In this state of feeling, the officers of the Vincennes showed a highly commendable spirit, and aware that additional labours were thus to be thrown upon them, strained every nerve to avoid any further loss of time. The officers of the Porpoise, as I was informed by Lieutenant-Commandant Ringgold, manifested an equally praiseworthy spirit.

With the aid of both wind and tide, we succeeded in getting through the pass at the Narrows before dark, and when this was effected, I anchored under Vashon's Island for the night.

The next day we made but little progress, owing to light winds, and a strong tide against us.

On the 19th, we anchored off Port Lawrence, and near the entrance to Hood's Canal, and on the 20th came to anchor in New Dungeness Roads, which I had assigned for a rendezvous with the Porpoise, which vessel joined us on the same day.

I shall now revert for a short time to the surveying operations, performed under instructions embraced in my orders of the 11th of May, which will be found in Appendix XI.

On the 15th of May, the Porpoise left Nisqually, and anchored the first night near the point where the surveys were to begin, but outside of the Narrows.

The first bay at the bottom of Admiralty Sound was termed Commencement Bay. Into this, the Puyallup, a small river, which, it will be recollected, was passed by Lieutenant Johnson, ten or twelve miles from Nisqually, falls. Commencement Bay affords anchorage, and a supply of wood and water may be obtained. The Puyallup forms a delta, and none of the branches into which it is divided are large enough for the entrance of a boat. The Indians were at this season of the year to be found on almost all the points, and were the same filthy creatures that have been before described.

The Porpoise was engaged until the 20th in surveying Admiralty Sound to the end of Vashon's Island, and on the afternoon of that day anchored in the Port Orchard of Vancouver.

Port Orchard is one of the most beautiful of the many fine harbours on these inland waters, and is perfectly protected from the winds. The only danger is a reef of rocks, which is nearly in the middle of the entrance. The sheet of water is very extensive, and is surrounded by a large growth of trees, with here and there a small prairie covered by a verdant greensward, and with its honeysuckles and roses just in bloom, resembling a well-kept lawn. The soil is superior to that of most places around the sound, and is capable of yielding almost any kind of production. The woods seemed alive with squirrels, while tracks on the shore and through the forest showed that the larger class of animals also were in the habit of frequenting them.

The next nine days were employed in surveying Port Orchard, which consists of two inner and an outer harbours. The former, although the entrance is by a strait not more than two hundred yards wide, is from two to six miles in width, and extends for a distance of fifteen miles. The water was found deep enough for the largest class of vessels, with a bold shore and good anchorage. Lieutenant-Commandant Ringgold made a set of magnetic observations here.

Near the anchorage were seen three canoes, propped on trees, containing the bodies of Indians. These were visited by Dr. Holmes, who procured a Flathead skull. The bodies were found wrapped firmly in matting, beneath which was a white blanket, closely fastened round the body, and under this a covering of blue cotton. Near by, on stages, were boxes about three feet square, supposed to contain the articles which are deposited by the Indians near the bodies of the dead, and which were not disturbed.

Many Indians, who were all cheerful and well disposed, visited the port during the continuance of the survey.

Port Orchard was found to communicate, on the north, with Port Madison, which we had surveyed on our way up the sound. Lieutenant Maury, with the boats, surveyed this passage, and found that it had a depth of four and a half fathoms water at low tide.

Near this passage is a place where the Roman Catholic missionaries have established a station for teaching the surrounding tribes. A large cross is erected, and a building one hundred and seventy-two feet long by seventy-two wide, which was found to contain many rude images. Many of the natives are capable of saying their prayers and telling their beads, and some were met with who could sing some Catholic hymns in their own language.

The Indians frequenting this port called themselves of the Je-ach-tac tribe.

On the 31st, the same meteor that was observed by the other surveying parties was seen. Its first appearance was at an altitude of sixty degrees. Its course was not directly downward, but zigzag, and it disappeared at an elevation of twenty degrees. Its track continued luminous for half an hour, and gradually changed its shape, becoming wider and less elongated. There was no explosion heard by any of the parties.

The next point visited and surveyed was Penn's Cove, between Whidby's Island and the main. This island contains many small villages, and appears to be more thickly peopled than other parts of the sound. It is in possession of the Sachet tribe, who have here a permanent settlement, consisting of large and well-built lodges of timber and planks, similar to those already described on the Columbia and elsewhere. The chief possessed a chest of valuables, carefully preserved in a corner, the contents of which were shown by him with no small pride, and consisted of a long roll of paper, on which were many representations of European houses and churches, together with rude sketches of the heavenly bodies, and a map of America. These had been given to him and explained by the Roman Catholic priest, and he seemed to understand the explanation. This whole tribe are Catholics, and have much affection and reverence for their instructers.

The priests of the Catholic mission made half-yearly visits, baptizing and leaving tokens among these Indians, and have done much good in promoting a good feeling among them. They were constructing a large building for a church, near which was erected a large cross.

Besides inculcating good morals and peace, the priests are inducing the Indians to cultivate the soil, and there was an enclosure of some three or four acres, in which potatoes and beans were growing. The Indians were also cultivating large quantities of potatoes, in a soil fertile and capable of producing every thing. Wild flowers were in abundance, and with strawberry-vines covered the whole surface. The fruit of the latter was large and of fine flavour.

The Sachet tribe are obliged to provide for their defence against the more northern tribes, by whom they are frequently attacked, for the purpose of carrying them off as slaves. For protection against these attacks they have large enclosures, four hundred feet long, and capable of containing many families, which are constructed of pickets made of thick planks, about thirty feet high. The pickets are firmly fixed into the ground, the spaces between them being only sufficient to point a musket through. The appearance of one of these enclosures is formidable, and they may be termed impregnable to any Indian force: for, in the opinion of the officers, it would have required artillery to make a breach in them. The interior of the enclosure is divided into lodges, and has all the aspect of a fortress.

Upon the whole, the tribe inhabiting Penn's Cove are more advanced than any others in civilization.

The only spring found here was one of a mineral character, forming a deposition on every thing around.

On the main, there is much good land.

Near the harbour of Port Gardner, a fine stream empties itself into Possession Sound, by four mouths. The water was not found to be sufficiently deep in any of these to admit boats at low water, in consequence of a bar or flat extending across the mouths.

Here they were surrounded by many canoes, containing Indians from the various tribes to the southward, whom they had before seen. The dress of the Sachet does not vary much from that of the other tribes, and generally consists of a single blanket, fastened with a wooden pin around the neck and shoulders. Those who are not able to purchase blankets wear leathern hunting-shirts, fringed in part with beads or shells, and very few are seen with leggins. The women ornament themselves with small brass bells, or other trinkets. The cartilage of the nose is also perforated, and pieces of polished bone or wood passed through it. Although the dress of these natives would seem to offer some concealment to the body, few are seen that wear it with any kind of decency. Their persons are usually very filthy, and they may be said to be at all times coated with dirt. They are fond of wearing brass rings on their wrists and fingers, and a few are seen to be tattooed who have some lines upon the arms and face. They disfigure their bodies by the manner in which they daub themselves with red ochre, mixed with salmon-oil, which, besides being disgusting in appearance, is extremely so in smell.

Dr. Holmes, of the Porpoise, had an opportunity of examining some of their maladies. Pulmonary complaints are very common, and occasion great suffering. The diseases most often met with are bronchitis, and tubercular consumption. Rheumatic affections are also of frequent occurrence. Their treatment does not differ materially from that of the tribes in the interior, already described in speaking of their medicine-men. Cures are sometimes attempted by making use of hot and cold bathing in every case, and without discrimination. Dr. Holmes saw an old man in the last stage of consumption, shivering from the effects of a cold bath at the temperature of 40° Fahrenheit. A favourite remedy in pulmonary consumption is to tie a rope tightly around the thorax, so as to force the diaphragm to perform respiration without the aid of the thoracic muscles.

Intermittents are also common, from which they suffer much. Hot baths are invariably used for this disease, after which the patient plunges immediately into cold water, where he remains until chilled. A thorough shampooing then succeeds, and a few howls and incantations complete the treatment.

Notwithstanding they hold their medicine-men in great repute, both the patients and their friends were very grateful for any aid rendered by Dr. Holmes, and readily took every thing offered them.

The brig moved, on the 18th June, to the northern outlet of Possession Sound, through Deception Passage. This was not believed by Vancouver to afford a passage for vessels; but, although narrow, it is feasible for those of small size. The tides rush with velocity through it, and there are some rocks in the passage. The Indians had moved from their village to temporary huts on the beach, where they seemed to enjoy themselves.

Lieutenant-Commandant Ringgold, being informed by the Indians that a passage existed to the north into Bellingham Bay, boats were sent to explore it. The information proved to be correct; but the water was so shoal, that it is, at lowest point, almost a mud-flat; and the channel, besides, is tortuous. This duty being completed, the Porpoise, on the 26th, was moved through the passage, and anchored under one of the small isles at the entrance.

The Indians from various parts of Admiralty Inlet, were constantly around the brig, endeavouring to derive some advantage in the way of trade. They were found to occupy various points, each tribe keeping distinct. Their names were, the Scocomish, Suquamish, Clalams, and Sachets, who live in harmony with each other, although they do not scruple to call one another "peshac," or bad; but this epithet is invariably given to those of a different tribe by all the Oregon Indians. The term, however, is applied with greater force to the more northern tribes, who frequently undertake incursions on them, in strong marauding parties, for the purpose of obtaining slaves: they are, in consequence, held in great dread. During the stay of the brig, an alarm occurred, which produced much consternation among them. Many sought shelter in the woods; others went off to their strongholds, and some women sought shelter alongside the brig in their canoes.

These Indians suffer little inconvenience in their changes of residence; for, having but few chattels, they can remove at a few moments' notice; and after landing at an entirely strange place, they are at home the moment their fires are lighted.

The 4th of July was spent near Point Roberts; and on the 5th, the brig reached the mouth of Fraser's river, which is about a mile wide, with a serpentine channel, leading through an extensive mud-flat. Fort Langley, of the Hudson Bay Company, is situated about twenty miles from the mouth. The country immediately around is low, and has a rich alluvial soil. It is inhabited by the Nanitch tribe, who accompanied the brig thither from Birch Bay. The mouth of Fraser's river was found to be six miles north of latitude 49° N.

Lieutenant-Commandant Ringgold, on the 20th, received further instructions from me to push the survey to the north; but being short of bread, he had sent Passed Midshipman Sandford to obtain a supply, which was at once despatched in the launch, although I expected to meet the brig at New Dungeness in a few days.

On the 20th, as before mentioned, the brig joined the Vincennes at New Dungeness.

I had been in hopes that, after the severe tour of surveying duty for the last three months, I should be able to give the crews some relaxation; but I found this impossible, for the duties were necessarily much increased by the absence of the Peacock and Flying-Fish, and the necessity of finishing as much of the northern survey as possible, as well as obtaining accurate information in relation to the positions, &c. I deemed it of too much importance to allow a day to go by unimproved. Orders were therefore given to the boats under Lieutenant Case to proceed to Port Townsend, to fill up the surveys and connect them with Hood's Canal and those of Whidby's Island.

Another division of boats, with those of the Porpoise, were employed in surveying New Dungeness Bay, and connecting it with Protection Island, while I was occupied in getting a series of observations for latitude and longitude, dip and intensity, at the low sand point which forms the bay. Orders were also prepared for the Porpoise to proceed to Port Townsend; thence to Fraser's river, visiting Fort Langley; and then through Johnson's Straits, and round the north end of Vancouver's Island, to Nootka Sound.

A large boat expedition was also fitted out, of which I took charge in person, to proceed across the Straits of De Fuca, to complete the survey of the Canal de Arro, with the adjacent bays and harbours, and thence to the mouth of Fraser's river, where I anticipated falling in with the Porpoise again.

On the morning of the 25th, the brig parted company, and in the afternoon I set out, with seven boats, to cross the strait. The wind had been blowing strong, but I did not anticipate much sea or danger. It proved otherwise, however, for the tide was found to be running strong ebb against the wind, producing a very high sea, which made the passage at times perilous. We, however, crossed this distance of twenty miles without any other accident than the loss of a mast belonging to one of the boats, and reached the opposite shore in safety, though completely wet from the quantity of water we had shipped. The boats all behaved uncommonly well; and many, who had believed them unsafe, were now satisfied that they were admirably adapted for all weathers. Large fires and dry clothes soon restored the men to their wonted good spirits.

On the 26th, we began the survey of this labyrinth of islands, which was continued the next day, 27th, on the afternoon of which I was joined by Passed Midshipman May, with letters from the ship and despatches from Nisqually, informing me of the loss of the Peacock, on the bar of the Columbia, but that all hands were saved. This news, although bad, was a great relief to me; for I had feared not only the loss of the vessels, but had serious apprehensions for the lives of the persons on board. A heavy load that had long hung over my mind was removed.

All my plans for the employment of the squadron were now at once to be changed; for it became necessary for me to proceed without delay to afford relief to our shipwrecked companions. I therefore immediately sent orders to the Porpoise, countermanding her previous instructions, and ordering her to repair forthwith to join the Vincennes at New Dungeness. On the 28th, the duties of our surveys were again resumed, and a finish made of those of the Canal de Arro. This was effected through the strenuous exertions of both officers and men, and the same night we reached the Vincennes.

Although we had completed all that was essential for the navigation of the Canal de Arro, I regretted that I had been deprived of the opportunity of examining the southeast end of Vancouver Island, which I have reason to believe offers many fine harbours. Three days more would have enabled me to accomplish this portion to my satisfaction.

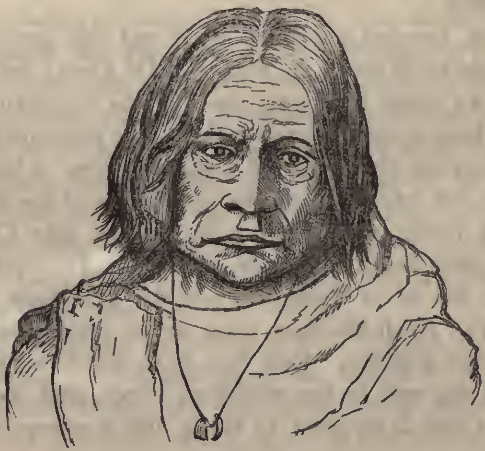
On the 29th, the brig again joined us, and Mr. T. W. Waldron was at once sent with despatches to Nisqually, to pass across the country to the Cowlitz, and thence down the Columbia to Astoria. Among the despatches was an order to all the ward-room officers of the Peacock, to report to me in writing the circumstances that led to the loss of that ship. These will be found published in Document No. 427, House of Representatives, 28th Congress, 1st Session, dated 10th April, 1844.

On the 31st, towards noon, the wind and tide permitting, we got under way, and stood down the Straits of De Fuca; but, owing to the light winds, we made little progress. Of the northern side of these straits it had been my intention to make a very particular examination, after completing the survey of the Canal de Arro. I have understood that there is a fine harbour near the eastern end of the island, where a post has been lately established by the Hudson Bay Company; that of San Juan, near the mouth of the straits, the Porpoise was ordered to survey on the 2d of August, while the Vincennes was engaged in the survey of Neah Harbour, lying on the south side of the straits, just within Cape Flattery. Port San Juan was found to afford little shelter, being exposed to the southwest winds, and the heavy swell of the ocean; and is reported as being unsafe, except for temporary anchorage.

Neah Harbour is but a small indentation in the coast, which is partly sheltered on the northeast by Neah Island. It is the position where the Spaniards attempted to establish themselves in 1972, and which they called Port Nunez Gaona. The remains of an old fort are still to be perceived, and some bricks were found that were supposed to have belonged to it. Water is to be obtained here in some quantity, and a small vessel would have no difficulty in getting enough. It offers a tolerably safe anchorage, though somewhat exposed to the northwest gales; yet by anchoring well in, which a small vessel may do, protection even from these gales might be had.

On the night of the 2d, we had an eclipse of the moon.

The ship, on anchoring, was surrounded by many canoes of the Classet Indians, who inhabit the country around Cape Flattery. They were well disposed to trade, and were greatly surprised that so large a ship should want no furs, which were of several kinds: the sea-otter was that most prized, and held at very exorbitant prices, more than they could be bought for in the United States. George, the chief of the Tatoucne tribe, as he terms himself, was on board all day. He speaks a few words of English, and is a fine-looking man. It was difficult to make him or any of his people understand the use of a man-of-war, the number of people on board, and the care that was taken to keep them from coming on board. He showed it by continually asking, "What for so big ship?" "What for so many mans?"—all probably proceeding from his disappointment in not being able to sell his skins. I succeeded in getting his likeness with the camera lucida, with which he was much pleased; and although at first silent, and apparently surly, he finally became quite talkative.



TATOUCHE CHIEF.

On my remarking a scar on the bridge of his nose, and others in the tribe who had the same mark, he told me it was the custom with them to cut the nose when they had taken a whale, which they considered a great exploit. The fishing season is in August and September. Their mode of capturing a whale is with buoys, made of seal-skin, which are blown up after the fashion of bladders, and form a large oblong float: these are four feet long, by eighteen inches or two feet in diameter, and are attached by a rope to the harpoon or spear, which is thrown at the whale, and becoming fastened to him, prevents his diving down to any great depth; after having a number of these attached to him, he is unable to quit the surface, and is finally captured. All those whose seal-skins are attached, now divide the booty: those who are entitled to a share are easily known, for each float has a different pattern painted upon it. The number of whales taken is reported at about twenty during the season, and a quantity of oil is obtained from them by the Cadborough, a schooner belonging to the Hudson Bay Company in exchange for articles of little value.

The Classet tribe of Indians is one of the most numerous on the coast that I had an opportunity of seeing, and seems the most intelligent. These Indians wore small pieces of an iridescent mussel-shell, attached to the cartilage of their nose, which was, in some, of the size of a ten cents piece, and triangular in shape. It is generally kept in motion by their breathing. They had seldom any clothing excepting a blanket; but a few who have contrived to make friends with the visiters, have obtained some old clothes: while others seem to be in the pay of the Hudson Bay Company. The principal articles of trade are tobacco, powder ("paulalee"), and leaden balls. These are preferred to most other merchandise, although more can be obtained for spirits than for any other article. This shows very conclusively, to my mind, the sort of trade that was carried on when the Boston ships entered into rivalry with the Northwest Company for the purchase of furs.

At the period of our visit, the Classet were at peace with the other tribe.

I deem this a good position for a missionary, for these Indians appear to be quite ignorant of any religious notions. I was informed, while at Vancouver, by one of the Catholic priests, that it was their intention to make a visit to them the next year, for the purpose of establishing their religion among them.

On the 3d, we were engaged in the survey of the harbour, besides obtaining fifteen hundred gallons of water. Its position (the north point of Neah Island) was found to be in latitude 48° 24′ 40″ N., longitude 124° 36′ 46″ W.; variation 21° 08′ 14″ easterly.

We had as many as forty canoes alongside on the 3d, with various articles for sale, including fish, venison, &c. Some of the canoes had as many as twenty persons in them. They were generally a stout, athletic race; and it was observed that the women were much better looking than those of the other tribes. Some of them, indeed, had quite fair complexions and rosy cheeks. They are not as much exposed to the weather as those we had previously seen, being provided with a conical hut, made of grass, and plaited so tight as to be impervious to water, which both protects them from the rain and sun.

It is said that this tribe can muster one thousand warriors, and they have the reputation of being treacherous and warlike. Many of them were fantastically painted, that is, besmeared with oil, soot, and red paint. Their dress consists of a native blanket, made of dog's hair interspersed with feathers: this is much more highly valued than the bought ones, but is rarely to be obtained. The clamour made by our numerous visiters alongside was very great, and their offers of articles were without much regard to the priority of rank, station, or any thing else.

The practice of flattening the head is prevalent here, but perhaps not so universal as among the other tribes we have seen. George, or King George, invited me to visit him at Tatouche, his village, about half a mile nearer to Cape Flattery than the place where the ship lay; but I had no time to spare. He informed me they had fifty lodges, made of planks, similar to those already described. His tribe live principally upon fish, of which they catch large quantities; and when a whale is taken, they literally gorge themselves with the blubber.

It was reported to me, late in the afternoon, that a ball had been fired at some of the sailors engaged in surveying; but it did not do any damage, striking the beach some little distance from them. I did not think it worth while to make any inquiry or disturbance about this matter, and only mention the fact to caution those who may hereafter visit this port that it is necessary to be upon their guard.

At 2 P. M. we got under way, with the Porpoise in company, and succeeded in making an offing before the fog enveloped us. These fogs are one of the greatest annoyances to vessels arriving on this coast; for, in fine weather, they are experienced almost daily, coming up with the sea-breeze, continuing throughout the night, and until the sun has sufficient power the next day to dissipate them.

In leaving De Fuca's Straits I anxiously watched for De Fuca's Pillar, and soon obtained a sketch of it, which is represented in the wood-cut at the end of this chapter.

During the night of the 3d, we lost sight of the Porpoise, and the return-signal to our guns soon became inaudible. The only guide one has on this coast during the fogs, is the lead; and vessels drifting into less water than fifteen fathoms, should anchor until they obtain a wind to carry them off.

The weather continued cold and chilly, with light rain; and we passed down the coast in eighty and ninety fathoms water. The soundings varied from rock, gravel, and sand, to a soft unctuous mud, of a deep-blue colour.

The morning of the 5th August, the Porpoise was discovered astern, which relieved me from any apprehension of detention.

The soundings were somewhat peculiar; for it was found that in our progress down the coast, they increased almost regularly until ninety fathoms was reached; but, a short distance beyond that depth, and at about fifteen miles from the coast, the bank suddenly fell off, and no bottom was to be obtained with a line of two hundred and two hundred and fifty fathoms long.

On the 6th, at daylight, Cape Disappointment was in sight; and at ten o'clock we were near the cape. The whale-ship Orozimbo, was off at the same time, the crew of which was much affected with the scurvy: I therefore sent to her medical assistance. The Flying-Fish joined us at noon; when Captain Hudson came on board, and from him I learned the particulars of the loss of the Peacock.

It will be necessary in the first place to state, that at Oahu, Sandwich Islands, previous to the departure of the squadron on their several cruises, I had furnished the Peacock, Porpoise, and tender, with directions for their passing the bar, which I obtained from Captain Spalding, of the ship Lausanne, a vessel of five or six hundred tons burden, which had just returned from the Columbia river, whither she had taken a number of missionaries and their stores. These appeared to be carefully drawn up, and Captain Spalding informed me that they could be depended upon. The fact that so large a ship had been navigated by them, and the report of the master that he believed them correct, left me no reason to doubt their probable accuracy; although at the time I had some misgivings about them, as they were entirely dependent on compass bearings, and those of objects at great distances. They were, however, the only directions for passing this dangerous bar which were to be had, and were then believed to be the only correct ones in existence. It was supposed, indeed, that they had been communicated to the Hudson Bay Company by the officers of H. B. M. surveying vessels Sulphur and Starling; but of this I had no positive evidence; for, although I met those vessels at the Feejee Islands, I received no communication from them on this subject.

The Peacock made Cape Disappointment on the afternoon of the 17th of July, and throughout the night experienced light airs and calms, accompanied by a dense fog.

On the morning of the 18th, between seven and eight o'clock, the fog cleared off, with the wind from the southward and eastward. Cape Disappointment was then about nine miles distant. At nine they sounded in forty fathoms water; at ten, fifteen: they had but fourteen fathoms when they tacked off shore. It being Sunday, Captain Hudson, as usual, performed divine service, which being finished at

$11^h\ 50^m$, they again tacked to stand in. The tender at this time was several miles to leeward.

At meridian, the wind came out from the southward and westward, with the weather a little cloudy; soon after which time the ship was off the entrance, and all hands were called to work her into port. Lieutenant Emmons was now sent aloft, on the foretopsail-yard, while Captain Hudson attended personally to the piloting of the ship, agreeably to the directions before spoken of, which he held in his hand. The ship was, according to Captain Hudson's report, running a north-east-quarter-east course, heading for Cape Disappointment, until the proper bearing of Chinook Point east-northeast was reached, when they discovered the sea breaking ahead of them. He now believed himself too far to the southward, wore ship, and ran off a short distance, until clear of the breakers, after which they again stood in, where the passage appeared clear and smooth, both from below and aloft. In less than five minutes, the ship touched. Lieutenant Emmons, who was on the look-out aloft, together with Lieutenant Perry, who also was similarly engaged, both state that they were of opinion that the only place where the channel existed was where the water did not break, and agreeing as it did so nearly with the sailing directions, Captain Hudson did not hesitate to attempt to proceed through the smoother part.

I am well aware that many opinions have been, and probably still are entertained, relative to the prudence of venturing with the ship before the channel had been explored and examined by the tender and boats. This is but natural to one unacquainted with the bar of the Columbia river and its dangers. After having paid much attention to this subject, and having been engaged there with the tender and boats in the survey, I feel myself entitled to give an opinion as to the course pursued by Captain Hudson, and think it altogether correct, on every ground of expediency, as well as the only proper one for him to have followed under these circumstances. It will be recollected that he had been detained nearly three months beyond his appointed time, and that he was well aware that this would occasion much inconvenience to the progress of our duties; his anxiety to prevent any farther delay, even of a few hours, can readily be imagined. The time was, to all appearance, propitious, and hesitation then might have rendered it impossible to have entered for a week. The tender going in ahead would have been little or no security, for she would, undoubtedly, have pursued the same course, and have been, in all probability, lost; and thus the Peacock would have been obliged at last to trust to the knowledge of those on board of her. As respects the examination of the bar in boats, this is a thing next to impossible; for the tides are so strong as to be beyond the power of oars to contend with. To wait until a thorough knowledge could be had of the bar from survey, would have been equally impossible at that time: all were uninformed, or incapable of judging of the accuracy of the directions; but, so far as appearances went, they seemed to be true, and they are such as I should even now give, so far as compass bearings are concerned. But there is one difficulty that will ever exist in passing over the bar, and this, nothing but an intimate acquaintance with the locality will remove. I allude to the cross-tides, which are changing every half-hour. These tides are at times so rapid, that it is impossible to steer a ship by her compass, or maintain her position; and no sailing directions can possibly embrace the various effects produced by them upon a vessel. A singular fact in illustration of this remark is, that the safest time to cross the bar is when both the tide and wind are adverse; and this is the only port, within my knowledge, where this is the case. Captain Hudson, in venturing the attempt to enter the Columbia, manifested the strongest desire to accomplish his orders and forward the objects of the Expedition. Disregarding the well-known perils of the navigation, he did not hesitate, when in his judgment the time was propitious, to incur the dangers of the bar, rather than subject the service to a further delay, which might have proved as disastrous to the Expedition as the loss of the vessel.

There are no pilots for the entrance of the Columbia river, or rather, none that could be relied upon. Neither old Ramsey nor George deserve the name, nor were there any other persons known, who had any pretensions to be considered as pilots.

Having set this matter at rest, I shall proceed to give the details of the loss of the Peacock.

On the ship striking, the helm was immediately put a-lee, and every practicable effort was made to bring her by the wind, and haul off. These efforts were not successful, and the ship, which hung by the keel, began to thump heavily. Every sea forced her further upon the shoal, and as she had now become completely unmanageable, the sails were furled. The stream cable and anchor were got ready, and the first cutter was hoisted out. Lieutenant Emmons was sent to sound around the ship in various directions, in one of the waist boats.

At this time, the wind having veered to the northward and westward, was freshening; the air was hazy and a fog was forming;* the ebb tide had begun to run strong, and meeting, not only the ocean waves, but an opposing wind, in a short time formed breakers which completely enveloped the ship. These breakers soon stove in the first cutter, and rendered her useless. Such was the fury of the sea, that it was with great difficulty Lieutenant Emmons reached the ship, and the boat was secured.

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* During the summer, this wind, haze, and fog occur almost every day in the afternoon.

With every sea the ship lifted and struck heavily, and much solicitude was therefore felt lest it should be impracticable to get the launch afloat; but no boat could have lived alongside of the vessel for more than a few moments.

The lighter spars were now sent down, and the pumps were rigged; every exertion was made to save the masts and lower yards, by which the launch might be hoisted out as soon as the sea would permit it.

Captain Hudson, finding that the ship was leaking badly, ordered the watches in gangs to the pumps, which were thenceforward kept in action until the vessel was abandoned. Every possible exertion was made to bring the ship's head to the sea, but without much effect, for the rudder was soon disabled in consequence of the iron tiller being broken off. The rudder was thus left to thresh about with such violence as to threaten to tear away the stern-frame.

At last, by heaving the shot overboard, and starting the water, the ship was so much lightened that, by means of the larboard anchor, which had been cast free of the ship, she was hove round with her head to the sea. At low water, which occurred about dark, there was only nine feet depth of water alongside. At $8^h$ $45^m$ the chain-cable parted, the ship was again thrown broadside to the sea, and began again to strike heavily.

At $11^h$ $30^m$ it was high water; at 1 P. M. the sea was rapidly increasing; and at 2 A. M., the breakers were making a continued breach over the vessel, by which the bulwarks were stove in, and the spar-deck flooded. The water was knee-deep on the gun-deck, and the shot-lockers were buried in it. The night passed heavily, with little hope of the ship's holding together till morning. At last the day dawned, and with the coming light, and at the extreme fall of the tide, the sea providentially abated.

At six o'clock in the morning, a large canoe boarded the vessel, manned by a crew of Chinook Indians, and having on board old Ramsey, the pilot, with a coloured boy belonging to the Vincennes, of the name of John Dean. The latter, who had been left by me with Mr. Waldron at Astoria, had persuaded Ramsey and the Indians to come off, for the purpose of rendering assistance. The launch and boats were also hoisted out, a few provisions put in them, and a part of the men and officers embarked, with as little delay as possible, and just as they stood, for fear of overloading the boats, and thus causing the loss of all. In these, Lieutenant Perry, with Purser Spieden, the sick, the naturalists, and the charts, books, and ship's papers, were sent off, to be landed in Baker's Bay. The boats landed all not necessary to row them, in safety; and succeeded in making a second trip, in which all who had remained on board were taken to the shore, except Captain Hudson, Lieutenant Walker, the boatswain, the carpenter, and about thirty men.

Towards noon, the breakers again increased; and the sea was making a breach in all directions over the ship, which was filling fast, the water having risen above the level of the berth-deck. The masts were cut away, and the vessel lay a complete wreck, with nothing standing but the stump of the mizzen-mast.

Lieutenant Emmons, who had charge of the boats, was, during this time, using every possible exertion to make a third trip, but without success; and the crews of the boats were the anxious witnesses of the condition of the ship, without being able to relieve those on board from their perilous situation. They persevered, however, in their fruitless and laborious endeavours, until one of the boats, in charge of Mr. Lewis, the gunner, was thrown end over end, and with her crew engulfed. Lieutenant De Haven was fortunately close at hand, and succeeded in saving those on board; all of whom were injured, and one of them severely, by the breaking of his hip-bone.

The intense excitement, both of those in the vessel and in the boats at this moment, may be readily imagined. The accident was seen from the ship: Captain Hudson was satisfied that any immediate attempt to relieve him and his companions must be fruitless; and that the only chance that remained, was to preserve the boats for a future occasion.

He therefore ordered the ensign to be hoisted on the stump of the mizzen-mast, as a signal for the boats to return to the land; which was obeyed by them, although with the feeling that they were abandoning their commander and those with him to their fate. Those on board, on the other hand, were released from their anxiety for the boats, on which alone they could depend for being relieved, if the wreck should remain together for a few hours. Of this, however, the prospect was far from promising, amid the struggle between the waters of the great river and those of the mighty ocean, when every surge seemed to forebode the utter dissolution of the fabric of the ship.

The light articles were now removed to the spar-deck, to give them a chance of reaching the shore by the action of the waves and winds, should the ship go to pieces.

In the midst of this trying scene, the ordinary routine of ship's duty was carried on, even to the piping to dinner. It is needless for me to say any thing in praise of the conduct of Captain Hudson, and I have simply to refer to the letters I received from the officers and naturalists, in reply to a call I made upon them, for the aspect in which the transactions presented themselves to those present; and more particularly to those of the latter gentlemen, who, as spectators, had an opportunity of witnessing the whole proceedings.

By three o'clock, Lieutenant Emmons, with the boats, was again approaching the ship; but the sea was still too rough to venture near her, and it was not till five o'clock that he succeeded in getting alongside, when the remaining men were distributed among the boats, and embarked in good order, Captain Hudson being the last to leave the ship. After a pull of two miles, they landed in Baker's Bay, when Captain Hudson was received by the other officers and men with three hearty cheers, the spontaneous expression of their admiration and gratitude for the courage and conduct he had exhibited in his efforts for the preservation of the ship, and in finally preserving the lives of all.

The exertions of the officers and men were not yet at an end; for some faint hopes were entertained that a portion of the property might still be saved from the wreck, as a relief in their state of utter destitution; and, in consequence, the boats were despatched the next morning at daybreak to the bar. But nothing was there to be seen of the Peacock, except the cap of her bowsprit; for her upper deck had been separated, and the pieces scattered for many miles along the coast.

Captain Hudson passed the highest encomiums on his officers and crew, for the faithful manner in which they continued to perform their duties and carry out his orders to the very last.

I am satisfied that every thing that seamanship could devise to save the vessel, was resorted to; and I am quite confident that when the facts are all known and fully weighed by the community, the conduct of Captain Hudson, and that of his officers and crew, in this perilous and trying scene, will be considered as redounding to the credit of the service.

Mr. Birnie, the agent of the Hudson Bay Company at Astoria, Messrs. Frost and Koen, the missionaries, with several residents, came promptly to the aid of the shipwrecked crew, with provisions, tents, cooking utensils, and clothing, all vying with each other in affording assistance.

When all hopes of getting any thing from the wreck were at an end, Captain Hudson sent the crew to Astoria, in the boats, with orders to form an encampment there, where they found an ample supply of provisions in the stores that had been sent from the Sandwich Islands, in the Wave, and were supplied with clothing by the kindness of Dr. M'Laughlin and the officers of the Hudson Bay Company.

As soon as I learned the exact state of affairs in the river, I determined to make such disposition of the squadron as would be most advantageous, in the performance, under the new circumstances, of the duties which remained to be accomplished.

With this intent, I resolved to shift my pennant to the Porpoise, and with that vessel, the Flying-Fish, and the boats of the Peacock, to survey the Columbia to its extreme navigable point. This force would be amply sufficient to perform this survey in the shortest possible time, and yet enable me to despatch a party, as I had before intended, through the southern section of the Oregon Territory to San Francisco. The Vincennes, to which I ordered Lieutenant-Commandant Ringgold, I resolved to send to San Francisco, to make a survey of the Sacramento river, while I was engaged upon that of the Columbia.

In conformity with this plan, I directed the Vincennes to lie off and on at the mouth of the river, while I proceeded in with the Porpoise to make the necessary changes and transfers. Taking Mr. Knox, and Ramsey the pilot, on board the latter vessel, we passed the bar and stood towards Astoria, but were compelled by the tide to anchor before reaching that place. On the morning of the 7th, we anchored in front of Astoria, where all the necessary arrangements were completed; and Lieutenant-Commandant Ringgold, on the next day, proceeded in the Flying-Fish, with the transferred officers, to join the Vincennes. As soon as this was effected, that vessel bore away for San Francisco, and the tender returned to the river.

As it became absolutely necessary to economize our time as much as possible, every disposition was now made of the men and boats. I soon, however, found that, although I had sent a number of men to the Vincennes, there would be many that could not be well accommodated in the smaller vessel, and I was desirous of procuring some extra accommodation. Fortunately, the American brig, the Thomas H. Perkins, Captain Varney, was lying at Astoria; and a reasonable agreement was entered into for her purchase. Dr. M'Laughlin, who had entered into a charter party, readily agreed to surrender it for a small consideration, if the goods he had on board were delivered at Vancouver. This there was no difficulty in, as it was found necessary to make some alterations in her accommodations, and it would be necessary to resort to Vancouver for many articles; and these repairs could be easily effected during the time we were engaged in the survey of the river, and better at Vancouver than elsewhere. It was, therefore, determined to proceed up with both vessels, at the time of making the survey.

It is now proper that I should return to the regular order of events, and take up the narration of the interesting cruise of the Peacock, the unforeseen and disastrous termination of which has just been related.

DE FUCA'S PILLAR.

# APPENDIX.

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# APPENDIX.

## I.

### LAPLACE'S MANIFESTO.

His Majesty, the King of the French, having commanded me to come to Honolulu, in order to put an end, either by force or persuasion, to the ill-treatment to which the French have been victims at the Sandwich Islands, I hasten, first, to employ this last means as the most conformable to the political, noble, and liberal system pursued by France against the powerless; hoping, thereby, that I shall make the principal chiefs of these islands understand how fatal the conduct which they pursue towards her, will be to their interests, and perhaps cause disasters to them and their country, should they be obstinate in their perseverance. Misled by perfidious counsellors; deceived by the excessive indulgence which the French government has extended towards them for several years, they are undoubtedly ignorant how potent it is, and that in the world there is not a power capable of preventing it from punishing its enemies; otherwise they would have endeavoured to merit its favour, or, not to incur its displeasure, as they have done in ill-treating the French. They would have faithfully put into execution the treaties, in place of violating them as soon as the fear disappeared, as well as the ships of war which had caused it, whereby bad intentions had been constrained. In fine, they will comprehend, that to persecute the Catholic religion, to tarnish it with the name of idolatry, and to expel, under this absurd pretext, the French from this archipelago, was to offer an insult to France, and to its sovereign.

It is, without doubt, the formal intention of France that the King of the Sandwich Islands be powerful, independent of every foreign power which he considers his ally; but she also demands that he conform to the usages of civilized nations. Now, among the latter, there is not even one which does not permit within its territory the free toleration of all religions; and yet, at the Sandwich Islands, the French are not allowed publicly the exercise of theirs, while Protestants enjoy therein the most extensive privileges: for these, all favours; for those, the most cruel persecutions. Such a state of affairs being contrary to the laws of nations, insulting to those of Catholics, can no longer be endured, and I am sent to put an end to it. Consequently, I demand in the name of my government,

1st. That the Catholic worship be declared free throughout all the dominions subject to the King of the Sandwich Islands; that the members of this religious faith shall enjoy in them all the privileges granted to Protestants.

2d. That a site for a Catholic church be given by the government, at Honolulu, a port frequented by the French, and that this church be ministered by priests of their nation.

3d. That all Catholics, imprisoned on account of religion since the last persecutions extended to the French missionaries, be immediately set at liberty.

4th. That the King of the Sandwich Islands deposit in the hands of the captain of l'Artemise, the sum of twenty thousand dollars, as a guarantee of his future conduct towards France, which sum the government will restore to him when it shall consider the accompanying treaty will be faithfully complied with.

5th. That the treaty signed by the King of the Sandwich Islands, as well as the sum above mentioned, be conveyed on board the frigate l'Artemise by one of the principal chiefs of the country; and also, that the batteries of Honolulu do salute the French flag with twenty-one guns, which will be returned by the frigate.

These are the equitable conditions, at the price of which the King of the Sandwich Islands shall conserve friendship with France. I am induced to hope, that, understanding better how necessary it is for the prosperity of his people, and the preservation of his power, he will remain in peace with the whole world, and hasten to subscribe to them, and thus imitate the laudable example which the Queen of Tahiti has given, in permitting the free toleration of the Catholic religion in her dominions; but if, contrary to my expectation, it should be otherwise, and the King and Principal Chiefs of the Sandwich Islands, led on by bad counsellors, refuse to sign the treaty which I present, war will immediately commence, and the devastations, all the calamities which may be the unhappy but necessary results, will be imputed to themselves alone, and they must also pay the losses which the aggrieved foreigners, in these circumstances, shall have a right to reclaim.

(Signed) C. Laplace,
Captain of the French frigate l'Artemise.

The 10th July (9th according to date here), 1839.

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## II.

### THE UNITED STATES CONSUL TO THE KING.

U. S. Consulate, Sandwich Islands,
October 26th, 1839.

To His Majesty, Kamehameha III.,
King of the Sandwich Islands.

As the opinion seems to be to some extent entertained, that American citizens residing in the Sandwich Islands as missionaries, under the patronage of an incorporated institution of the United States, have exerted a controlling influence upon the framers of the laws of this country, I have very respectfully to inquire, if they have ever had any voice in the passage of laws affecting the interests of other foreigners, and particularly, whether they have ever had any thing to do in the measures adopted by your government for the prevention of the introduction of the Catholic religion into the country. And whether in the treatment which has been shown to any subject of the government of France, they have directly or indirectly recommended the course pursued by your government, and also whether in the attempts made under your authority to suppress the public exercise of the Roman Catholic religion on the part of your own subjects, they have countenanced those attempts. If they have in any of these respects controlled the action of your government, will you be pleased to inform me very explicitly in what manner and to what extent. An early reply will be a favour.

With the highest consideration,
I have the honour to be
Your Majesty's most obedient servant,
P. A. Brinsmade,
U. S. Commercial Agent.

### THE KING TO THE UNITED STATES CONSUL.

[ Translation. ]

Kauwila House, present residence of the
King of Hawaii, October 28th, 1839.

My respects to you, the American Consul,—

I have received your letter asking questions respecting the American missionaries, supposed by some to regulate the acts of my government under me; I, together with the chiefs under me, now clearly declare to you, that we do not see any thing in which your questions are applicable to the American missionaries. From the time the missionaries first arrived, they have asked liberty to dwell in these islands. Communicating instructions in letters, and delivering the word of God has been their business.

They were hesitatingly permitted to remain by the chiefs of that time, because they were said to be about to take away the country. We exercised forbearance, however, and protected all the missionaries, and as they frequently arrived in this country, we permitted them to remain in this kingdom because they asked it, and when we saw the excellence of their labours, then some of the chiefs and people turned to them in order to be instructed in letters, for those things were in our opinion really true.

When the priests of the Romish religion landed at these islands, they did not first make known to us their desire to dwell on the islands, and also their business. There was not a clear understanding with this company of priests as there was with that; because they landed in the country secretly, without Kaahumanu's hearing any thing about their remaining here.

When the number of the followers of the Romish religion became considerable, certain captains of whale-ships told Kaahumanu of the evil of this way, and thus Captain D...... informed me of a great destruction in Britain in ancient time, and that his ancestors died in that slaughter, and he thought a like would soon be done here. That was the company who informed us of the evil of the Romish religion, and also a certain French man-of-war, and a certain British man-of-war, approved of what we did.

Inasmuch as I do not know of the American missionaries having had any thing to do in my business with my chiefs, I have therefore inquired of them, the chiefs, and they say, no, in the same manner as I now say, no, to you.

Some of them, however, have told me of having known certain things done by certain missionaries, viz., what Mr. Bingham said to Kaahumanu, "I have seen some people made to serve at hard labour on account of their having worshipped according to the Romish religion. Whose thought is that?" Kaahumanu said to him, "Mine." Then he that spake to her objected quickly, saying, "It is not proper for you to do thus, for you have no law that will apply." When he said that, then Kaahumanu immediately replied to him with great strength, "The law respecting idolatry; for their worship is like that which we have forsaken." Mr. Clark, also, and Mr. Chamberlain, spoke to Kinau while Kaahumanu was yet alive, and objected to said conduct, and afterward Dr. Judd. And at a certain time, Mr. Bingham and Mr. Bishop disputed strongly with Kinau on account of the wrong of punishing those of the Romish religion.

And now in Kekauluohi's time, Mr. Richards disputed strongly with Kekuanaoa, urging the entire abolition of that thing, and that kindness should be bestowed on them, that they might be pleased, giving them also an instructer to teach them the right way; and thus also he said to Kekauluohi and to me.

And afterward, when Mr. Bingham heard by Mr. Hooper that certain women were confined in irons at the fort, he went immediately and made known to Kekuanaoa the wickedness of their confinement for that thing, and when Kekuanaoa heard it, he immediately sent a man, and afterward went himself to the fort, to set the prisoners free, for their confinement was not by order of the chiefs.

Should it be said by accusers that the American missionaries are the authors of one law of the kingdom, the law respecting the sale of rum, or if not, that they have urged it strongly, I would say, a number of captains of whale-ships commenced that thing, thousands of my own people supported them, and when my chiefs saw that it was a good thing, they requested me to do according to the petition of that company; and when I saw that it was really an excellent thing, then I chose that as a rule of my kingdom.

But that thing which you speak to me of, that they act with us, or overrule our acts, we deny it; it is not so.

We think that perhaps these are their real crimes:

Their teaching us knowledge. Their living with us, and sometimes translating between us and foreigners. Their not taking the sword into their hand, and saying to us with power, stop, punish not the worshippers in the Romish religion.

But, to stand at variance with, and to confine that company, they have never spoken like that since the time of Kaahumanu I. down to the time that the Romish priest was confined on board the Europa.

I think, perhaps, those things are not clear to you; it would perhaps be proper, therefore, that the American missionaries should be examined before you and Commodore Read, and us also.

Thus I have written you, with respect,

(Signed) KAMEHAMEHA III.

## III.

### CEREMONIES ON FOUNDING HEIAUS.

THE following ceremony was performed at the building of the heiau, or temple of Kohala, in Hawaii, by Kamehameha. Immediately afterwards the king departed, in order to effect the conquest of Oahu.

On the 27th (Kane) of January (Kaulua), the ceremony began.

On the 28th, a calabash of red ochre was mixed.

On the 29th, the priest, leaning on a spear, repeats prayers and begs lands.

On the 30th, palm-leaves are spread on the roof of the house in the heiàu. On the first day of the month (Nana), the people are placed in eight rows, when prayers and benedictions are offered, together with a sacrifice of pigs and fruit. Then the priest of Nukuokea appears, and asks of the king an offering of three fowls to bake at night; one for the king, one for the priest, and one for the god.

On the second day, they go to the mountains in search of the okea idol, when a man was killed: at the time of the cutting down the okea tree the priest prayed for land, and the sacrifice was offered, with a hog and tapas, and the image carved; the direction in which the tree fell, land was sought for, and the people on it were stripped of all they had and killed; when the company returned home bearing the image and singing, "Kuamu, Kuawa, wa—Kuawuwa lauakila la Uwa." After prayers, the priests each take a fowl, the chief two, and two are given to the god Kaili: these are eaten by them, the god's by his keeper, after which they went to sleep. If it rained during the night, it was considered a good omen.

On the third day, at an early hour, the people came with materials for building a house during the day. After the frame is set up, the people are placed in rows, and prayers are said. The idols were then carried in procession, prayers said, and they were placed around. The priest and chief exchange their wreaths of okea flowers, at which time the people made sixteen exclamations; the people then eat, and finish the house afterwards, which is done with much ceremony. In the evening the high-priest arrived with three fowls; one for the god, another for the king, and a third for himself. If rain fell during the night, they would conquer their enemies.

On the fourth day, before it was light, the "Aha" and "Kaili" prayers were said, at which time the priest brands the land that they are to conquer. After this, the chief brings a hog, holding his snout, when the priest again prays to the idol; the chief, repeating his "Amama," (invocation) killed the hog. The priest cautiously asks the chief if he heard any noise, or voice of a mouse, dog, or bird: if none, it was a good omen. Then the chief and priest advance towards the people, the former wearing a feather cloak, while the latter was naked, who demanded of the people if they heard any noise; and being answered in the negative, the priest then said the god had declared they should eat of the fruit of the land of their enemies. At night nine hogs are offered.

The fifth day opens with prayer. The king or chief gives forty hogs for each end of the temple. In the evening, the idol they had hewn out of the tree was brought down to the temple, and placed in front of the steps of the heiau. A large hole was then dug, and a man sacrificed and placed in it; on this the idol is put, and the earth thrown in around it: the multitude now retire. The priest now demanded of the king three fowls—one for the god, another for the king, and the third for himself. The god's is devoured by his keeper, while the king and priest feast on theirs, when they all go to sleep, under the impression that some omen will occur. If rain, with thunder and lightning, ensue, the omen is very favourable.

Just before dawn, the feather god, Kaili, with a hog, is taken to the new idol, where, on a signal being given, the king kills the hog with a single blow; the priest strikes a few blows on the drum, which was the signal that the ceremony was finished. After this the taboo was removed, when children might cry, the cocks crow, and crickets chirp, without danger; then all the priests assemble within the heiau, and prayed in concert till daylight, at which time the king makes the "Amama."

On the sixth day, the king presented a hog to each god, frequently to the number of forty, and two to each priest, two of which were placed in front of the new idol, with cocoa-nuts and bananas, where they are left to putrefy. The king and priest then retired to the "Nule-Pahu," where they prayed. At nightfall, one of the priests went out in search of a fish called "olua," which is represented as a fathom in length; if this fish could not be found, a man, who had broken the taboo, was hooked in the mouth, killed, and dragged to the altar; if the observance of the taboo had been very strict, and none was found delinquent, a squirrel was substituted, and was offered to the idol in like manner. If a man was sacrificed, the king took hold of one of the feet of both the hog and man, and thus presented them to the god, saying, "Here is my offering to you; let me live; let me have the country I desire to conquer." They then all retire and feast. A chief, called the "Turtle," then came forward, and prayed with uplifted hands. If any one offended by making a noise, he was instantly killed. The women afterwards brought their tax of tapa, which is put into the fifth house in the heiau.

On the seventh day, they all bathed; after which they were all clothed in new maros from the tapas; they then sat down in rows, placing themselves in various attitudes, with the hands raised up or placed on their shoulders, and each was obliged to remain in the same attitude until the ceremony of prayer was concluded. Afterwards eighty hogs were distributed among the people. They then repeat the "Aha" and the "Kaili," the prayers before spoken of; and the favourite wife of the king then came with a hog and fine mat, which she offered, with prayers and the "Amama," and requested that she might live and be preserved by the king.

On the eighth day, the whole ceremony was finished, all the taboo removed, and a general council of the chiefs held, as to the mode of carrying on the war, when they went to conquer the land they had sacrificed and prayed for. After the wars were ended, heiaus for peace and the prosperity of the kingdom were built, to insure fertility and plenty to the land.

## IV.

[Copy.]

U. S. Ship Vincennes,
October 31st, 1840.

Charles Wilkes, Esq.,

Respected Sir—We, the undersigned, petty officers, seamen, ordinary seamen, &c., belonging to this ship, beg leave to request the particular favour, that after Peter Sweeny is punished, that he may be discharged from this ship and the Expedition. His conduct during the time he has been shipped, warrants us in saying, he is no sailor, and a very dangerous man in any ship. If he is in debt to the ship, we are willing to pay the same.

Yours, very respectfully,

John Black,
William Richmond,
John Hannon,
H. Turner,
E. P. Southworth,
Henry Batchelor,
Archer Brown,
John Heno,
Joseph G. Clark,
Francis Montserat,
John Kelburn,
Joseph Lemont,
Edward Hubbard,
Charles Knowles,
William Gillen,
Francis Joseph,
James Graham,
Thomas Wilson,
William Roberts,
Henry Taber,
John Thompson,
John Brown,
Lewis Harron,
William Flide,
Thomas Sinclair,
John Vankleeck,
John Cooper,
John Wilson,
John Mattox,
William S. Longley,
John Brooks,
Thomas Ford,
George Sharrock,
James H. Gibson,
John Roach,
John Shafford,
Sheldon Benedict,
William Eastwood,
James Green,
Elijah King,
George Elliott,
William Kubb,
Stephen Fosdick,
Daniel Whitehorn,
William M'Donald,
Garret Cole,
John Dunnock,
George Trebble,
William Clark,
Samuel Williams,
William Roberson.

Navy Department,
December 1st, 1843.

I hereby certify, that the annexed is a true copy from the original, on file in this Department.

(Signed) A. Thomas Smith,
Chief Clerk.

## V.

### COPY OF THE ENLISTMENT OF THE MARINES.

We the subscribers, non-commissioned officers and privates of marines, do and each of us doth hereby agree to and with Thomas Ap Catesby Jones, Captain of the United States Navy, in manner and form following, that is to say: In the first place, we do hereby agree, for the consideration hereafter mentioned, to enter into the South Sea Surveying and Exploring Service of the United States, and in due and seasonable time to repair on board such armed vessel or vessels as may be ordered on that service, and to the utmost of our power and ability respectively to discharge our several services or duties, and in every thing to be conformable and obedient to the several requirings and lawful commands of the naval officers who may from time to time be placed over us.

Secondly. We do also oblige and subject ourselves to serve during the term of the cruise, and we do severally oblige ourselves by these articles to comply with and be subject to such rules and discipline of the Navy of the United States, as are or that may be established by the Congress of the United States.

Thirdly. The said Thomas Ap Catesby Jones, for and in behalf of the United States, doth hereby covenant and agree to and with the said non-commissioned officers and privates of the marines who have hereunto signed their names, and each of them shall be paid in consideration of such services, the amount per month which, in the column hereunto annexed, is set opposite to each of their names respectively, and likewise to advance to each and every of them, three months' bounty, the receipt whereof they do hereby acknowledge, and that they shall be punctually discharged at the expiration of the term of their enlistment, or as soon thereafter as each vessel of the Expedition shall return to a port of safety in the United States.

The foregoing is a true copy of the terms of agreement entered into between Captain Thomas Ap Catesby Jones and certain non-commissioned officers and privates of marines, of the late Exploring Service of the United States; the signatures of whom are witnessed by commissioned officers, either of the Navy or Marine Corps: the original of which agreement is on file in the office of the Fourth Auditor of the Treasury Department.

(Signed) John Etheridge,
Clerk.

January 9th, 1843.

## GENERAL ORDER.

The undersigned, commander-in-chief of the United States Exploring Squadron, in promulgating the sentences of the court-martial, in the cases of Ward, Riley, and Sweeny, takes the opportunity to revert to the causes that have brought about the crimes with which they are charged, and of which they have been found guilty.

The intemperate use of intoxicating liquors appears by the evidence to have had a strong influence in inciting the convicted men to the commission of their offences; and the commander takes this public opportunity to express his abhorrence of the practice, and to state that in his opinion nothing can justify it, nor any act done in a moment of intoxication palliate the offence which is alike disgraceful to the individual, the navy, and the country.

He trusts that the examples now before the squadron will have a tendency to prevent the commission of like crimes, and will have an effect to induce those who witness the punishment to be inflicted, for offences committed while under the influence of intoxicating spirits, to refrain from the excessive use of them for the future.

In consequence of the long confinement of Ward, his sentence is hereby mitigated to thirty-six lashes, to be inflicted as I shall hereafter direct, agreeably to the sentence of the court.

The case of Riley is viewed by the commander-in-chief as extremely aggravated, he having violated the laws for the government of the navy by quarrelling and getting drunk; but the commander likewise considers his long confinement and the manner in which he obtained the spirits as some reason why the whole extent of the punishment should not be awarded. He therefore so far mitigates his punishment that he shall receive but fifty lashes; and that part of the sentence dismissing him from the service, is hereby remitted.

In noticing this case, the commander-in-chief has felt some surprise at several circumstances which were brought to light in the course of the testimony; and regrets that he feels compelled to exercise authority, reposed in him by the government, on an officer who is every way capable of doing his duty well and faithfully.

The circumstances alluded to above have reference to the conduct of Acting-Master's Mate, A. M. Cisney, of the United States ship Peacock, for violating the rules and regulations by giving the crew grog. His appointment is hereby annulled, and he is ordered to be dismissed from the naval service of the United States.

Charles Wilkes,
Commanding Exploring Expedition.

U. S. Ship Vincennes,
Honolulu, October 28th, 1840.

### GENERAL ORDER.

The naval court-martial now in session, having sentenced Michael Ward, John Riley, and Peter Sweeny, and the sentences having been approved by me, except so far as they are mitigated in the two first cases, will be carried into effect in the following manner.

Michael Ward will be punished with one dozen lashes on his bare back with the cat-o'-nine-tails, alongside each of the three vessels of the squadron now in port.

John Riley will receive sixteen lashes alongside of each of the vessels of the squadron now in port, in like manner with Michael Ward.

Peter Sweeny will be punished with eight lashes alongside of each of the vessels of the squadron now in port, in like manner with Ward and Riley.

The launch of the Vincennes will be rigged with a platform and gallows, and a guard of marines, with a boatswain and three mates, to guard the prisoners and inflict the punishment.

The crews of the vessels will be dressed, and their rigging and sides manned, at 10 A. M. on Friday, at which time the punishment will be inflicted.

Charles Wilkes,
Commanding Exploring Expedition.

U. S. Ship Vincennes,
Harbour of Honolulu,
October 28th, 1840.

## VI.

U. S. Ship Vincennes,
Harbour of Honolulu,
October 13th, 1840.

Gentlemen,—

Acting-Master Knox will land you at Koloa, on the south side of the island of Kauai, where you will obtain conveyances and proceed to traverse the island in the following directions, viz.: you will divide yourselves in three parties, and pursue the following routes.

The first party, to take the eastern shore round to the north as far as Halelea, following the courses of rivers, &c., and ascertaining their extent.

The second will proceed directly across the island, and join the others at Halelea.

The third party will proceed round the west side, in like manner, following the rivers and streams, and rendezvousing at the same place.

A sympiesometer is furnished, to be used in measuring heights, by the party that crosses the centre of the island. Full reports will be made to me on your return.

Five days are allowed you for the excursion on Kauai, at the end of which time you will join the Flying-Fish at Halelea.

On your return here, Mr. Knox has orders to land you on the western side of this island, at Waialoa, near Waimea Bay, the residence of Mr. Emerson; this will place you in a position to pursue the researches on this island to advantage.

The first party will take the southern route; the second, the middle; and the third, the northern, returning to this place as soon as circumstances will admit.

It is believed that the like number of days on this island will be amply sufficient.

Your researches and inquiries will be directed principally to botany, geology, zoology, mineralogy, natural resources, cultivation, productions, late improvements, condition of the natives, supplies, facilities for obtaining them, &c.

I am, respectfully,
CHARLES WILKES,
Commanding Exploring Expedition.

TO MESSRS. PICKERING, DANA, PEALE,
RICH, AGATE, and BRACKENRIDGE.
Scientific Corps.

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U. S. Ship Vincennes,
October 25th, 1840.

SIR,—

You will receive Messrs Pickering, Dana, Peale, Rich, Agate, and Brackenridge on board, and proceed to the harbour of Koloa, on the southeast side of the island of Kauai, where you will land those gentlemen, and continue round the island to the westward, looking into and examining carefully, all harbours, bays, and inlets. The harbour of Waineha, and Waimea Bay, especially deserve a careful and thorough examination. At Waimea Bay, you will communicate with the Rev. Mr. Whitney from whom you will be able to derive valuable information relative to the object of your search. An introductory note is herewith enclosed.

Your examination will extend to Halelea, where the scientific gentlemen will join you, in five days from the time they are landed.

You will then take them to Waimea Bay on the eastern side of Oahu, from whence you will despatch a native messenger to me, with information of your arrival, and proceed along the north coast to Koolau Bay, which you will examine with care; and if you receive no orders from me, proceed direct to Honolulu.

In fourteen days you will be able to carry out these instructions, and return to this anchorage.

I am, respectfully,
CHARLES WILKES,
Commanding Exploring Expedition.

ACTING-MASTER SAMUEL KNOX,
Tender Flying-Fish.

U. S. Ship Vincennes,
Harbour of Honolulu,
November 10th, 1840.

Sir,—

You will receive on board Messrs. Peale, Rich, and Dana, of the scientific corps, and Mr. Hall and servant, of this place, and proceed to the port of Kaleakeakua, island of Hawaii, where you will land the above gentlemen, and thence proceed to the examination of a reef said to exist off the southwest end of Kahoolawe, and locate it with the land, carefully ascertaining its latitude and longitude.

From thence you will return to Hawaii, to Hilo in Byron's Bay; where you will await the arrival of these gentlemen.

Ten days are allowed them to rejoin you, from the time of their landing; after which you will make all haste to return to this harbour: your return will be expected on the 28th or 29th, beyond which time you must not delay.

During your stay in Byron's Bay, you will make a sketch of it.

I am, respectfully,
Charles Wilkes,
Commanding Exploring Expedition.

Acting-Master S. Knox,
Tender Flying-Fish.

P. S. You will furnish the gentlemen bread for their excursion.

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U. S. Ship Vincennes,
Harbour of Honolulu,
November 10th, 1840.

Gentlemen,—

You will proceed in the Flying-Fish to Hawaii, where you will be landed in Kaleakeakua Bay. From thence you will proceed across the island. Messrs. Peale and Rich, with Mr. Hall, will take the route by the ancient temples, to the north of Mauna Loa, passing by the craters of Kilauea, and thence to Hilo. Ten days are given you to reach Hilo.

Mr. Dana, with Midshipman Hudson, will follow the line of coast as far as Apua, thence trace the eruption to the volcano, making examinations and sketches in his route.

Ten days are given him to reach Hilo.

You will obtain as many Kanakas as are required to carry the burdens, whom you will reward for their labours, which expenses will be refunded on your return, on producing necessary vouchers. Mr. Knox will furnish you with the provisions you may require to take with you.

Mr. Peale will make sketches, and take measurements of the ancient temples, and also the compass bearings.

Full reports of your proceedings will be expected on your return.

I am, respectfully,
CHARLES WILKES,
Commanding Exploring Expedition.

MESSRS. PEALE, RICH, and DANA,
Scientific Corps.

P. S. I enclose a tracing of the island, on which the route of Messrs. Peale and Rich is designated by the red line, and that of Mr. Dana by the blue.

CHARLES WILKES.

## VII.

U. S. Ship Vincennes,
Harbour of Honolulu,
November 14th, 1840.

SIR,—

1st. You will proceed to the southward, holding your wind closely, until you reach the Paumotu Group.

2d. Search for a small island in longitude about 146° 30′ W., (to the westward of Peacock Island), and latitude 14° 30′ S.

3d. Pass by Raraka, search for, and survey three small islands and reefs, said to exist between Tanea, Saken, and Phillips Isles.

4th. Thence to the eastward, to look for two islands said to exist between latitude 15° 05′ S., and 16° 35′ S., and longitude 141° W.

5th. Thence to the southward, to search for the group of islands said to exist in latitude 20° 15′ S., and 21° 35′ S., and longitude 142° to 143° W.

6th. Take up your party on the island that have been left to bore the coral rock, and proceed thence to Tahiti, to fill up with water and wood; and examine the surveys made of the harbour of Papieti, &c., connecting that of Matavai with Papoa.

The charts are sent to you.

After three days' stay, you will proceed in a northwest direction, to the islands of Penrhyn and Flint: survey these, and proceed thence to those called the Isles of Danger. After exploring this ground, you will return to this island, falling in with some supposed islands and reefs under the line, in longitude 160° W.; sighting Palmyra's and other islands, if you will not be delayed thereby, and passing about a degree to the westward of the position assigned to the Manuel

Rodriguez Shoal, in longitude 155° W., where it is supposed to exist, and examine and survey it.

If you should obtain any information of islands or shoals, laying in or near your track, you may make a deviation; but as soon as you have completed your search, you will resume the course pointed out to you, which must be strictly adhered to, as any deviation therefrom may interfere with the track of the rest of the squadron, and cause a waste of time.

In making search for land, you will draw circles of your visual horizon, and be particular not to omit examining the space carefully.

You may select such an island as may seem to you most advantageous to use the boring apparatus; landing thereon a party under a careful officer, (Lieutenant Johnson,) whom you will specially instruct in its use, carefully preserving the borings for every foot in depth, in boxes properly marked; the armourer and forge will of necessity accompany the party.

You will be particular in giving Lieutenant Johnson instructions relative to the preservation of the health of the party, taking every precaution not to come in collision with the natives, if any should be on the island; and equally cautious to guard against surprise or treachery on the part of the natives.

You will take care to furnish the party with ample supplies.

The General Order in relation to intercourse with the natives, will be observed during your cruise as heretofore.

Tides will be carefully observed by the shore-party hourly.

You will obtain the transverse sections of at least three of the coral islands (the one on which the boring apparatus is used being one of them), with the level and soundings, inside and out, on all the points of the island where it is possible to obtain them, in connexion with an accurate survey of the same.

On your arrival at Matavai, you will be very particular in obtaining sights (equal altitudes) for your chronometers, and also on all the islands you may discover or survey.

You will also try the dip and intensity, both at sea and on shore, whenever practicable.

Between thirty and forty days is deemed ample time to secure the success of the boring experiment, which it is recommended should be continued throughout the twenty-four hours, which may easily be effected by a proper division of the force employed.

I do not designate any particular island on which the boring experiment is to be made: this must depend upon how you fall in with the Paumotu Group. I would have you select one at as early a period as possible, and after seeing the apparatus in operation, to continue your cruise, taking up your work in the order I have intimated in the first part of these orders.

The taking up of the party being the last duty previous to going to Tahiti, you will be able to complete the survey of the island on which the party is landed during the time the preparations are making.

During your passage through the group, you will be particular in observing the transit-bearings, whether of islands or points.

Your return will be expected off this harbour by the 15th March, where you will await me or orders, beyond which time you must not delay; and from the liberal calculations I have made, you will be enabled easily to execute this duty in the time specified.

You will as usual endeavour to gather all the information that may lay in your power, relative to currents, winds, &c.; making collections of specimens, &c.

I am aware you have many difficulties to encounter in the execution of the duties assigned you; but I feel confident, that your exertions will enable you to overcome them.

You will make observations for dip, intensity, and variation, and obtain sights for your chronometers at Point Venus.

The rate of your chronometers is herewith enclosed. Wishing you a pleasant cruise, I am, &c.,

Charles Wilkes,
Commanding Exploring Expedition.

Lieut. Com. C. Ringgold,
U. S. Brig Porpoise.

## VIII.

U. S. Ship Vincennes,
Oahu, December 1st, 1840.

Sir,—

You will proceed from this port with the Peacock and Flying-Fish, (which vessel is placed under your command for the coming cruise,) and follow the instructions herein pointed out.

1st. You will steer for the equator, so as to fall in with it in about 160° W. About this position, or rather between the line and latitude 1° 30′ S., an island is supposed to exist called Broke, on which you will make the magnetic observations for both dip and intensity, making a survey of it at the same time, placing a bottle and a flag-staff on its lee side, with information for me of your proceedings. Thence you will steer to the westward, keeping as nearly on the line of the magnetic equator as you can, (it is approximately marked on your chart,) making daily dip and intensity observations as far as 172° W.; about which position you will fall in with the Phœnix Group, consisting of several small islands, some of which I have already examined and placed them on your chart. The most northern one I have seen, is Enderbury's, with a few bushes on it, in latitude 3° 08′ S., longitude 171° 08′ 30″ W. To the northward of this lies one or two, said to have extensive reefs around them. You will explore the sea hereabouts, from longitude 172° 30′ to 170° 30′ W., and from the line to latitude 5° S. By beginning from the northward and working to the southward, you will be enabled to fall in with all the islands in succession. The currents are at times strong to the eastward, and therefore it will be necessary for you to keep your station during the night.

I wish you to ascertain particularly the existence of Phœnix Island: some are inclined to believe it one and the same with Birnie's, in the same latitude, and about thirty miles to the westward. Also sight Sydney Island; on the chart, Hull's Island is about forty-five miles to the westward of it: night prevented me from seeing it. After you have satisfied yourself of having thoroughly explored this little group, you will proceed to the southward, passing near to Fletcher's Island, and those of the Duke of York, and Clarence, which you will survey, land upon, and have communication with the natives, for they are said to be inhabited. Thence southward, to the island of Gente Hermosas of Quiros, said to exist to the westward of its situation on the charts of Arrowsmith; examine both localities (that of the charts and to the westward of it) well, for an island certainly exists thereabouts; and from thence to Apia, Upolu, of which island you will make a careful survey, and also of its harbours, particularly those of its south side, viz.: that of Falialili and Sanapu, and of any others, having the latitude carefully observed there, and longitude by chronometer, as also the sea-soundings, for there are soundings a long distance off shore.

There is also a harbour at the east end of Savaii, which has escaped the brig: I wish this examined. Mr. Mills, the missionary, and Mr. Cunningham, will be able to give you some information respecting it.

After you have completed your duties at Upolu, you will proceed to Savaii, and anchor in the harbour of Mataata, which harbour you will particularly survey. A copy of the sketch made by the Porpoise is hereby furnished you. Do not delay here more than three days, as it may be found an unsafe harbour at this season, being open to the north. Thence proceed to the westward, to Ellice's Group, which you will carefully examine, and note particularly the currents, and if there are any harbours there, supplies, &c. Next proceed to the De Peyster Group, which joins them, and likewise examine them fully. There are a few islands off to the westward, said to have been seen: if chance offers, you will sight them. Thence to the Kingsmill Group, which you will explore. The charts of Duperrey are furnished you, likewise a manuscript chart of the Carolines, &c. You will follow the trend of the islands, keeping your position at night, and following up your surveys to the northward as far as the Pescadores, which group you will examine and survey. Many new islands will be fallen in with hereabouts.

Thence to Strong's Island and Ascension. At the two latter, refreshments can be had in abundance. It is desirable that you should follow out this group as far as longitude 150° E., and then return by the Pescadores, which will afford you an opportunity of picking up any islands you may have missed in your track eastward. From the Pescadores, you will proceed towards the north, along the range of islands, Gaspar Rico, &c., for the Columbia river, where your arrival will be looked for from the 15th of April to the 1st of May: it must not be later than the latter date. You will enter the river, and anchor in Baker's Bay, should you not hear from me prior to that time, where you will await my arrival.

During your cruise, you will be particular in observing the dip, intensity, and variation, daily, if possible, either at sea or on shore, and trying the currents as often as possible, measuring the meridian distances between place and place, or island and island, by your chronometers, and observing equal and circummeridian altitudes for latitude. The harbour of Apia is in longitude 171° 41′ 09·12″ W. You will measure its meridian distance from this port in longitude 157° 50′ 12″ W., latitude 21° 19′ N.

I am, &c.,
CHARLES WILKES,
Commanding Exploring Expedition.

CAPTAIN WM. L. HUDSON,
U. S. Ship Peacock.

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U. S. Ship Vincennes,
Harbour of Honolulu, December 1st, 1840.

SIR,—

On your arrival at Upolu, you will endeavour again to capture the chief Opotuno; and you will also obtain ample justice for the late murder of an American seamen on that island. The papers relating to him are herewith furnished for your guidance. Your endeavours must be to impress them with the belief that they cannot commit these acts with impunity.

It is impossible to point out the mode by which you may most readily succeed in these views; but it is believed, that the capture of the principal chiefs would readily obtain the persons who have committed this crime, and, I doubt not, Opotuno himself.

Hostile steps are to be avoided as much as possible; and it is desirable that this service should be performed without risking the lives of those under your command.

On Strong's Island there are very many rascals, who are continually plundering unarmed vessels. Any measures you may be able to pursue to rid our commerce and whale-fishery from this evil, will be sanctioned by me.

I enclose you the journal of Captain Dowsett, of the schooner Victoria, who was some time since left on the Pescadores. The accompanying letters will give you all the information extant about them and the schooner Waverley, sent on a shelling voyage, and believed now, from information received, to be lying at Strong's Island. Any information relative to her actual fate, or that of her crew, and that of Captains Dowsett, Scott, and Cathcart, will be satisfactory to their friends.

Guns were fired on the American schooner Honduras, at Strong's Island, supposed by foreigners. You will investigate this matter, and spike any guns that may be in the hands of foreigners. The natives are said to be very friendly.

It is generally supposed that the vessel was cut off by a set of desperadoes, who are now on Strong's Island, and who are a pest to every vessel touching there. You will adopt such measures as the case may seem to you to warrant. I need not say to you that it is desirable that all and every kind of information respecting this group will be looked for. I am, &c.,

Charles Wilkes,
Commanding Exploring Expedition.

Captain Wm. L. Hudson,
U. S. Ship Peacock.

## IX.

U. S. Ship Vincennes,
At Sea, December 7th, 1840.

To His Majesty Kamehameha III.,
King of the Sandwich Islands.

I have the honour to inform your Majesty, that, desiring to leave the port of Honolulu on the 3d of December, and having notified the pilot Adams that he was required to pilot this ship to sea, (which pilotage the consul had paid in advance,) he came on board in the morning, (the wind being fair,) remained a short time, and left, refusing to pilot the ship to sea.

During his stay on board, at which time I was absent on shore, he behaved in a manner totally unworthy of one who holds such an employment under your Majesty, until my first-lieutenant checked him; and I was obliged to act as my own pilot.

It was the opinion of my officers, that he was under the influence of liquor, and unable to do his duty.

Frequent complaints have been made to me, that vessels were detained in port in consequence of his being drunk and not able to do his duty.

I have now to request of your Majesty, that you would dismiss him from the responsible situation he holds as pilot of your port. I do not think him a safe person to trust vessels to, and on my stating this in the United States, it will affect the insurance of vessels bound to your port.

I deem it a duty you owe to vessels bound to Honolulu, to provide them with a safe and sober pilot. There are many other persons fully capable of the trust, and I think it behooves you to take the proper measures in relation thereto.

I am well aware that it is only necessary to mention these circumstances to your Majesty, to have the abuse corrected; and I would recommend Captain John Meek, of Honolulu, as a suitable person for the office of captain of the port and pilot. I am confident his appointment would be acceptable to all the merchants and masters of vessels residing at and visiting Honolulu; I hope, therefore, that this arrangement may be made without delay.

I have the honour, &c.

CHARLES WILKES,
Commanding Exploring Expedition.

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### THE KING'S ANSWER.

MY salutations to you, Captain Wilkes:

I have received your letter respecting the pilot at Honolulu, and am well aware that your complaints are not groundless, but are well founded. I have, therefore, given attention to the subject; but John Meek has declined the appointment. I have not, however, given up the subject.

Our laws provide that the local governors shall have a voice in the appointment of pilots. Wherefore I am waiting the arrival of Governor Kekuanaoa of Oahu, when we shall consult together, and make a new appointment, either of a foreigner or of a native, as shall appear best.

(Signed) KAMEHAMEHA III.

Lower Lahaina, March 15th, 1841.

## X.

THE orders for Lieutenant Johnson will be found with those of Lieutenant-Commandant Ringgold, in Appendix VII.

## XI.

U. S. Ship Vincennes,
Nisqually Harbour, May 13th, 1841.

SIR,—

You will proceed from this anchorage, and take up the survey of Admiralty Inlet, below the Narrows, passing into the channel on the east side of Vashon's Island; thence north, examining and surveying all islets, and the shores of both sides of the straits, particularly all those bays, &c., that afford shelter for vessels, not only as harbours, but for temporary anchorage.

Off the north end of Vashon's Island you will be joined by the launch and first cutter and two boats of this ship, under Lieutenant Case.

If you should have reached this point before the boats, you will place up a signal, to indicate that you have passed it, and to which they may join their work of the channel on the west side of Vashon's Island. I shall direct Lieutenant Case to place a similar mark, if he should reach it before you, in order that neither party may be delayed.

Lieutenant Case will be ordered to continue with you in the work if you should meet there; but if he should reach it before you, he will be ordered to proceed at once to Hood's Canal; and you will then continue the survey down the inlet to the northward. On reaching Whidby's Island, you will pass into and survey Possession Sound to its extreme end, and all its inlets, &c.

If you cannot pass out of the Deception Passage, you will order a party to pass out in boats, and to carry the survey to the southward, along its western shore, whilst you sail back to its southern end, when you will take up the survey and continue it until you meet your boat party, connecting it with Wilson and Hudson Points, which form Port Townsend. You will not, however, go in here, except for temporary anchorage, but proceed at once to the northward, along Bellingham Bay and through the group of islands, pass into Birch Bay and Fraser's river, still continuing the survey as far as the entrance to Johnston's Straits. You will then return to the southward, along the eastern shore of Quadra's and Vancouver's Islands, until you arrive again at the Straits of Juan de Fuca, which will be looked for about the first week in July, when you will anchor in New Dungeness Harbour. After reaching it, you will despatch my two boats, with sufficient provisions, to make for this anchorage, ordering them to keep a look-out on the different points for information from me, which I shall leave, in case I shall have passed down Admiralty Inlet.

The following instructions will be observed for carrying into effect the surveying duty, &c.

Whenever practicable, the bases will be measured by chain, and the true direction of the base-line formed.

Astronomical observations will be particularly attended to, for latitude and longitude, by circummeridian and equal altitudes, daily, if possible, and from those points or the hills or bluffs near by, observations will be made with the theodolite on all distant points or mountain ranges, with a view to ascertain the actual position of peaks, their extent and height, and to form a connexion with your work. For this purpose, I recommend large trees to be barked or whitewashed, which will be found the most convenient signal, and easily distinguished on each side of the straits. An old piece of canvass, whitewashed and placed against a dark ground, or cut into a triangular form, and tied between bushes or trees, forms a mark easily distinguished, and may be left standing.

It is extremely desirable that the points astronomically ascertained should be brought directly into connexion with each other, by triangulation, and no opportunity of getting the bearing of points in transit should be neglected.

The bays, harbours, &c., will be on the scale of four inches to the mile, but the general chart you will plot on the scale of two inches, which will include all distant points.

The officers will be particular in sketching in the shores and tracing the topography.

It is expected that the soundings will be full, and no part omitted, and that every part of the harbours that are surveyed will be attended to in this respect, as few things give so unsightly an appearance to a survey as an irregularity of soundings. In order, therefore, to have a full view of your work done, it is necessary that it should be plotted immediately, and the work kept up daily. The number of officers now attached to the brig will leave no excuse why it should not be done, and it will be expected by me that this part of your duty will meet with the greatest attention.

Variation will be often taken; also your dip and intensity observations should be frequently repeated.

You will endeavour to obtain all the information that may lay in your power, relative to the geological formation, and capabilities of the soil for agriculture, near and about the parts surveyed, also all minerals. The east sides of Quadra's and Vancouver's Islands are known to contain coal, which the Indians get from the surface. It would be desirable to view the locality and get specimens, &c. All water-courses and brooks that may afford water for shipping, will be particularly noticed.

You will also pay great attention to the tides, their height and fall; set of currents, and the time of high and low water at full and change: this may be done in a few hours, by marking a staff, stuck in the water a few feet from shore, and an hour or two before high and low water, noting the time by the watch at the same time, and again when the water rises to the same point: the mean will give you the high and low water on that day, which, applied to the age of the moon, will give it on full and change.

I am desirous, also, that your dredge should be much used at all anchorages: there are many times when it can be done very successfully in deep water, and the results would be more rare and valuable.

As respects your astronomical observations, thóse by the north star I should much prefer to the sun for your latitude, and the time by a star I consider fully as good as by the sun; and, after a little practice, observations on stars with the artificial horizon will be found easy and convenient, interfering but little with your surveying duties during the day. The accuracy of the survey depends so much on these observations, that a few hours taken from sleep will be amply repaid.

Let all your work on paper bear date, scale, and name. The names of the Indian tribes, numbers, and extent of the districts belonging to them, it is desirable to get; all curiosities, &c., you will of course preserve.

Referring you to my General Order of May 1st, and wishing you success in the execution of these instructions,

I am, &c.

Charles Wilkes,
Commanding Exploring Expedition.

Lieut. Com. C. Ringgold,
U. S. Brig Porpoise.

U. S. Ship Vincennes,
Nisqually Harbour,
May 16th, 1841.

Sir,—

You will proceed with the launch, first cutter, Ariel, and Pilot, accompanied by Acting-Master Totten, Passed Midshipmen May and Colvocoressis, to the point in the passage west of Vashon's Island, below the Narrows (where Mr. Colvocoressis's signal was placed), from which you will begin the survey of the passage, proceeding northward until you reach the north end of Vashon's Island, where you will connect your work with the Porpoise on a staff erected there by that vessel. If you should find none, you will erect a large pole-signal, somewhat similar to those we have observed in the different bays; and also one on the small island opposite, which I have named Bainbridge Island, leaving a note of your having done so for Lieutenant-Commandant Ringgold, to which he will connect his work.

You will from thence proceed (not meeting the Porpoise) direct for Port Lawrence, the place in which we once anchored, at the mouth of Hood's Canal, which you will proceed to survey, and endeavour to find a passage through the head of it, into Puget Sound, by some outlet or channel that may possibly exist: if one should be found, you will continue your survey through it, and into the waters of Puget Sound; if not, after completing the survey of Hood's Canal, you will return by its entrance to Admiralty Inlet, and thence toward the ship.

On your arrival at the Narrows, you will again take up the survey, connecting it with Mr. Totten's No. 1, and Mr. Eld's No. 8, and from thence into Puget Sound, taking its northern side, and islands near it in your progress to the southward and westward. From this point you will despatch one of your boats to me, with information of your progress.

The signals you put upon these islands must be well marked, so as to be distinctly seen and recognised.

You will continue up the arms and inlets, until you reach the head of the sound, and all its branches, after which you will continue the survey toward the ship at Nisqually.

In case of your falling in with the Porpoise, Lieutenant-Commandant Ringgold has orders to retain you in company until he reaches the mouth of Hood's Canal, when you will separate from him.

The following instructions will guide you in your surveys.

Whenever practicable, your bases will be measured by chain, and the true direction of the line found.

Astronomical observations will be particularly attended to, for latitude and longitude, by circummeridian and equal altitudes, daily if possible, and from those points, or the hills or bluffs near by, observations will be made with the theodolite, on all distant points or mountain ranges, with a view to ascertain the actual position of peaks, their extent and height, and to form a connexion with your work.

For this purpose, I recommend large trees to be barked or whitewashed, which will be found the most convenient signal, and easily distinguished on each side of the straits. An old piece of canvass whitewashed and placed against a dark ground, or cut into a triangular form, and tied between branches of trees, forms a mark easily distinguished, and may be left standing.

It is extremely desirable that the points astronomically ascertained, should be brought directly into connexion with each other by triangulation, and no opportunity of getting the bearing of points in transit should be neglected.

The bays, harbours, &c., will be on the scale of four inches to the mile, but the general chart you will plot on the scale of two inches, which will include all distant points.

The officers will be particular in sketching in the shores, and tracing the topography. It is expected that the soundings will be full and no part omitted, and that every part of the harbours that are surveyed will be attended to in this respect, as few things give so unsightly an appearance to a survey as an irregularity of soundings.

In order, therefore, to have a full view of your work done, it is necessary that it should be plotted immediately, and the work kept up daily.

The number of officers under your command will leave no excuse why it should not be done, and it will be expected by me that this part of your duty will be attended to with the greatest attention.

You will endeavour to obtain all the information that may lay in your power relative to the geological formation, and capabilities of the soil for agriculture, near and about the parts surveyed; also all the minerals; and water-courses or brooks affording water for shipping, will be particularly noticed.

You will likewise pay great attention to the tides, their height and fall, set of currents, and the time of high and low water at full and change. This may be done in a few hours by marking a staff stuck in the water, a few feet from the shore, and an hour or two before high and low water, noting the time by the watch at the same time, and again when the water rises to the same point: the mean will give you the high and low water on that day, which, applied to the age of the moon, will give it on full and change.

I am desirous also that your dredge should be much used at all anchorages: there are many times when it can be done successfully in deep water, and the results would be more rare and valuable.

As respects your astronomical observations, those by the north star I should much prefer to the sun for your latitude, and the time by a star I consider fully as good as that by the sun. After a little practice, observations on stars with the artificial horizon will be found easy and convenient, interfering but little with your surveying duties during the day.

The accuracy of the survey depends so much on these observations, that a few hours taken from sleep will be amply repaid.

Let all your work bear date, scale, and name. The names of the Indian tribes, numbers, and extent of the district belonging to them, it is desirable to get. All curiosities you will of course preserve.

Some articles are placed under your charge for presents and trade; you will be very economical in their use, and with your report you will give me an account of their distribution.

Of your ammunition you will take particular care, suffering no discharge to be wasted, either by your own boat's crew, or those under your command.

No grog is allowed. Your meals will be taken in time to get to your surveying duties by seven o'clock in the morning, and you will continue them until 5 P. M., when you will land and prepare the men's supper. No trading must be allowed during the time allotted for surveying duties, as it would call off the attention, and prevent the promotion of the work.

On Saturday afternoon, you will always select a suitable place for your stay until Monday morning. Neither officers nor men are to be allowed to leave the boats on excursions. When in camp, you will be particular in having a strict watch kept, under charge of an officer.

The provisions are under your charge, and you will see that no waste takes place. If you obtain sufficient fresh provisions, you will serve them out in lieu of the salt ration.

My General Orders relative to the intercourse with the natives, must be strictly observed. Any infraction of them, you may rely upon it, will be duly noticed. Your men are furnished with three suits of clothes each. They must never be suffered to remain in wet clothes at night; and you will see that they shave and keep themselves clean.

They will have ample time to wash on Saturday afternoons, and the Sunday's rest will render them able to encounter the fatigues of the week.

I shall expect from you a very particular report of all circumstances that occur.

A theodolite, chain, dredge, the eprouvette, and a howitzer, are furnished you for measurements of base, &c.

You will supply yourself with the signals required for surveying service, and see that each of your officers is furnished with the signal-book and answering pendants.

Referring you to my General Order of May 1st, and wishing you success in the execution of these instructions,

I am, &c.,
CHARLES WILKES,
Commanding Exploring Expedition.

LIEUTENANT A. L. CASE,
U. S. Ship Vincennes.

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## XII.

U. S. Ship Vincennes,
Nisqually Harbour, May 13th, 1841.

SIR,—

You are entrusted with the charge of the party, consisting of yourself, Mr. Thomas W. Waldron, Dr. Pickering, Mr. Brackenridge, Sergeant Stearns, and Henry Walthrown (ordinary seaman), for the exploration of the district pointed out in the accompanying map.

You will leave this place on the 17th, and proceed by the route that will lead you across the mountain range north of Mount Rainier, of which it forms a part. Thence you will pursue a route to the northward, keeping to the west of the Columbia river until you reach Fort Okonagan, where you will doubtless obtain much information relative to the country, and proper guides to proceed with. From thence I should desire you to push to the northward, if possible, and your time will permit, making a detour so as to stop at Fort Colville; thence across the Saptin or Lewis river, and down to Fort Nez Percé, and thence, in a direction to Mount Rainier, to Nisqually, where you will join me or receive orders to govern your farther movements.

The route I have pointed out I believe to be feasible, but as the country is little known, it may not be so. My object is to get information respecting the district I have marked in red, and you will endeavour to get this as accurately as possible, by travelling over as much of its surface as your time will admit of. You are limited to two months' absence, and I am well convinced that much knowledge may be gained of the district pointed out to you, in that time.

Your inquiries at posts and forts will lead to much information of the country, with its capabilities, productions, climate, soil, &c.

They will particularly embrace the following, viz.:

1st. The names of tribes of Indians, and their number.

2d. Manners, customs, modes of living, disposition, &c.

3d. The sources and courses of rivers and their branches, with their latitude and longitude, and also of lakes, their extent, and whether head waters of rivers, or having any outlet.

4th. Climate, degrees of heat and cold; if not thermometrically observed, get the time when trees blossom and fruits come in.

5th. How long the posts or forts have been occupied, state of fur trade in the interior, number of forts established, where, and among what tribes.

6th. Timber, kinds and qualities, soil, and all other information, together with accounts, tales, and histories of adventures, that you may hear well authenticated.

You will observe the following instructions relative to your times and modes of observing, viz.:

You will keep an accurate map of your route, noting on it the latitude and longitude of all your stopping-places, from which position you will take the bearings and angles on all distant hills and mountains, direction of ranges, courses of rivers, &c. You are provided with a chronometer, sextant, artificial horizon, prismatic compass, barometer, and thermometers. Your means for obtaining observations will be great: I shall therefore expect you to be very particular and untiring in their use, as much of the information derived from them will depend entirely on your own exertions.

Observations you will obtain daily, if possible, both for latitude and longitude. When the meridian altitude of the sun is not obtained, you will have frequent opportunities by the north star. This observation you will find easy after a little practice, by bringing the two reflected images to cover each other, and having your mean time, any time of night you will be able to obtain your latitude.

I also wish you to use the stars for getting your time. The observations of two stars east and west, will give you it with great accuracy. The best mode of observing stars in the artificial horizon is to clamp your index nearly to its altitude, and await its coming, and when they cover, mark the time. Stars nearly east and west of you are to be preferred, altitude about twenty or thirty degrees.

All your observations must be worked up as soon after they are taken as possible. I enclose you herewith a few azimuth formulas.

When you take an azimuth, which ought to be daily, take it on some well-defined object, and note carefully the bearing of it by the prismatic compass. It is particularly desired to multiply these observations.

Your route or courses must be kept by compass: this you will find no difficulty in doing in an open country; but through the woods it will be better that all your party should be required to keep their own reckoning, which you will use, together with your own, in the same way as at sea. The longitude of Fort Nisqually for your departure you may take as 122° 53′ W., its latitude 47° 07′ 30″ N. To serve you for more accurate measurement than mere guess, time the paces of your horses, and the length of each pace will be your scale.

You will map or keep a diagram of your work on the pages of your journal, taking the ruled lines as a convenient scale of miles, marking thereon the mountains, hills, woods, rivers, brooks, and plains, within your horizon. This will be more effectually done by ascending any hill to take a bearing from. Every remarkable object you will designate by its native name; if it has none, give it one of your own.

A tape-line is furnished you to get any measurements with, such as the width of rivers, &c.; also find the velocity by the distance a chip will pass in a given time. You will measure also any remarkable trees you may meet with, their height and circumference. At all your stopping-places you will take a reading of the barometer, and the thermometers will be read every six hours, and as often besides as your change of altitude may make it desirable. As it is one great object to ascertain the height of all ranges, you will be particular in noting the barometer on them, and it will be desirable for some one of the party to ascend all remarkable hills: the barometer will also be sent; it is hoped that great care will be taken that it is not injured.

It may be desirable for Dr. Pickering and Mr. Brackenridge to make occasional short excursions from your direct route; you will in that case afford them all the facilities in your power to promote their researches.

You will study the safety as well as the comfort of your party, and bear in mind particularly the instructions for the treatment of the natives in my General Order of May 1st, 1841.

Finally, you are not to deviate from the route pointed out unless insurmountable difficulties should render it impossible to pursue the course specified, and in no case are you to go to the southward of the limits pointed out.

Wishing you success in the execution of these instructions,

I am, &c.,
Charles Wilkes,
Commanding Exploring Expedition.

Lieutenant R. E. Johnson,
U. S. Brig Porpoise.

## XIII.

### METEOROLOGICAL OBSERVATIONS AT LAPWAI, OR KOOSKOOSKEE, NEZ PERCES MISSION, OREGON TERRITORY, LAT. 46° 30′ N., LON. 118° 30′ W., 468 MILES FROM THE MOUTH OF COLUMBIA RIVER; BY THE REV. H. H. SPALDING.

1837.

| MONTHS. | THERMOMETER. | | | | | | | | | | WEATHER. | | | | RESULTS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Greatest cold. | Day of the month. | Greatest heat. | Day of the month. | MONTHLY MEAN. Before sunrise. | MONTHLY MEAN. 4 P. M. | MONTHLY MEAN. 9 P. M. | Average monthly mean. | Greatest monthly range. | Greatest daily range. | Fair days. | Cloudy days. | Rainy days. | Snowy days. | |
| JANUARY. | 9° | 12 | 63° | 22 | 25·9° | 41·7° | 31·9° | 36° | 39° | 10° | 9 | 9 | 8 | 4 | |
| FEBRUARY. | 11 | 11 | 76 | 20 | 29·4 | 54·9 | 33·1 | 42·5 | 58 | 48 | 14 | 9 | 1 | 4 | |
| MARCH. | 14 | 11 | 84 | 17 | 35·4 | 66·6 | 41·2 | 49 | 70 | 46 | 18 | 6 | 5 | 2 | Mean temp. 56·2° |
| APRIL. | 34 | 25 | 86 | 29 | 46·8 | 69·4 | 53·5 | 60 | 52 | 44 | 12 | 14 | 3 | 1 | Fair days, 159 |
| MAY. | 28 | 13 | 95 | 16 | 53·5 | 73·1 | 57·6 | 61·5 | 67 | 49 | 13 | 9 | 9 | — | Cloudy days, 77 |
| JUNE. | 46 | 9 | 94 | 24 | 59·7 | 78·3 | 67·3 | 70 | 48 | 28 | 9 | 8 | 13 | — | Rainy days, 85 |
| JULY. | 26 | 2 | 108 | 23 | 56·8 | 79 | 67·8 | 67 | 72 | 58 | 20 | 3 | 8 | — | Snowy days, 14 |
| AUGUST. | 38 | 14 | 101 | 10 | 58·5 | 84·6 | 71·1 | 69·5 | 63 | 49 | 21 | 6 | 4 | — | |
| SEPTEMBER. | 31 | 14 | 90 | 1 | 56·3 | 72·6 | 65·5 | 60·5 | 59 | 45 | 22 | 2 | 6 | — | |
| OCTOBER. | 26 | 28 | 90 | 11 | 35·9 | 66·9 | 46·9 | 58 | 64 | 48 | 15 | — | 18 | — | |
| NOVEMBER. | 18 | 20 | 70 | 5 | 34·6 | 48·8 | 44·2 | 44 | 52 | 31 | 6 | 11 | 10 | 3 | |

## XIII.—Continued.

### 1840.

| MONTHS. | THERMOMETER. | | | | | | | | | | WEATHER. | | | | RESULTS. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Greatest cold. | Day of the month. | Greatest heat. | Day of the month. | MONTHLY MEAN. | | | Average monthly mean. | Greatest monthly range. | Greatest daily range. | Fair days. | Cloudy days. | Rainy days. | Snowy days. | | |
| | | | | | Before sunrise. | 4 P. M. | 9 P. M. | | | | | | | | | |
| JANUARY. | 9° | 31 | 52° | 18 | 33° | 43° | 36·4° | 30·5° | 43° | 21° | 12 | 12 | 6 | 1 | | |
| FEBRUARY. | 19 | 1 | 62 | 26 | 38·3 | 47·2 | 40·4 | 35·5 | 43 | 20 | 2 | 12 | 11 | 4 | | |
| MARCH. | 9 | 19 | 80 | 31 | 35·9 | 53·6 | 41·4 | 44·5 | 71 | 42 | 12 | 10 | 5 | 4 | Mean temp. | 53·6° |
| APRIL. | 27 | 28 | 80 | 1 | 40·8 | 60·7 | 46 | 51·3 | 53 | 42 | 12 | 10 | 6 | 2 | Fair days, | 172 |
| MAY. | 30 | 11 | 87 | 22 | 46 | 61·9 | 54·67 | 53·2 | 57 | 43 | 10 | 14 | 7 | — | Cloudy days, | 93 |
| JUNE. | 47 | 1 | 99 | 30 | 59·1 | 85·7 | 65·3 | 73 | 52 | 45 | 22 | 8 | — | — | Rainy days, | 88 |
| JULY. | 48 | 10 | 104 | 12 | 60·6 | 90 | 68·8 | 76 | 56 | 42 | 24 | 4 | 3 | — | Snowy days, | 12 |
| AUGUST. | 50 | 20 | 107 | 12 | 63 | 88·9 | 70·3 | 73·2 | 57 | 43 | 23 | 7 | 1 | — | | |
| SEPTEMBER. | 48 | 29 | 100 | 19 | 58·9 | 86·4 | 41·1 | 75 | 52 | 40 | 16 | 5 | 9 | — | | |
| OCTOBER. | 27 | 24 | 78 | 3 | 38·1 | 59·4 | 46·6 | 52·1 | 51 | 37 | 23 | 5 | 3 | — | | |
| NOVEMBER. | 23 | 29 | 58 | 14 | 35·7 | 50·3 | 40·8 | 40·5 | 35 | 22 | 6 | 3 | 21 | 1 | | |
| DECEMBER. | 19 | 31 | 55 | 14 | 36·8 | 46·8 | 41 | 37 | 36 | 23 | 12 | 3 | 16 | — | | |

Mean temperature, 1837, 56·2°
Do. do. 1840, 53·6

Aggregate mean, 109·8 = 54·9°.

## XIII.—CONTINUED.

### 1841.

| MONTHS. | THERMOMETER. | | | | | | | | | | WEATHER. | | | | RESULTS. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Greatest cold. | Day of the month. | Greatest heat. | Day of the month. | MONTHLY MEAN. | | | Average monthly mean. | Greatest monthly range. | Greatest daily range. | Fair days. | Cloudy days. | Rainy days. | Snowy days. | | |
| | | | | | Before sunrise. | 4 P. M. | 9 P. M. | | | | | | | | | |
| JANUARY. | 26° | 16 | 28° | 26 | 20·04° | 29·4° | 25° | 27° | 74° | 46° | 9 | 10 | 4 | 8 | Average mean temp. | 50·3° |
| FEBRUARY. | 14 | 10 | 66 | 28 | 22·7 | 44·4 | 27·8 | 35 | 80 | 42 | 17 | 4 | 4 | 3 | Fair days, | 70 |
| MARCH. | 26 | 10 | 69 | 15 | — | — | — | 47·5 | — | 34 | 15 | 6 | 10 | 2 | Cloudy days, | 45 |
| APRIL. | 30 | 13 | 76 | 19 | — | — | — | 53 | — | 44 | 5 | 9 | 14 | 1 | Rainy days, | 48 |
| MAY. | 38 | 5 | 94 | 26 | — | — | — | 66 | — | 39 | 17 | 5 | 8 | — | Snowy days, | 14 |
| JUNE. | 44 | 5 | 102 | 23 | — | — | — | 73 | — | 35 | 7 | 11 | 8 | — | | |

Mean temperature, 1837, 56·2°
Do. do. 1840, 52·6
Do. do. 1841, 50·3
Aggregate mean, 159·1 = 53°.

## XIV.

U. S. Ship Vincennes,
Nisqually Roads,
July 17th, 1841.

Sir,—

You are entrusted with the party, consisting of yourself, Passed Midshipman Eld, Mr. Brackenridge, Sergeant Stearns, Privates Rodgers and Dinsman, John Brooks (seaman), Thomas Ford and Henry Waltham (ordinary seamen), and the boy Joe, as interpreter, for the purpose of proceeding to Gray's Harbour, by the portage of Shaptal, and through the lakes of the same name, thence down the Chickeeles river, which empties itself into the ocean, forming Gray's Harbour.

You are provided with two canoes and four balsas, together with provisions for twenty days, which is considered by me ample time to effect the following objects, &c.

Your departure will take place from Nisqually, on the 19th, proceeding up Puget Sound to the portage, where you will ascertain your latitude and longitude by equal altitudes and the pole-star; thence passing over the portage, you will direct your attention particularly to the facilities it offers for transportation, and sketch the topographical plan of it.

On reaching the Shaptal Lakes, you will embark (after having made a rough survey to ascertain their extent, if they are too large to be embraced by one view of the eye), on the Chickeeles, and proceed down it towards Gray's Harbour, making observations in order to ascertain its courses, length, and width, together with its capabilities for navigation.

On your arrival at Gray's Harbour, you will proceed to make an accurate survey of it, by measuring a base-line on the Sandy Flats at low water, and establishing well-marked signals round the harbour; and those near the entrance sufficiently large to enable you to see to angle on them at the bar, which must be sounded at low water, when it is supposed to be more clearly defined.

Some difficulties may occur in this part of the duty; and after the signals are put up, it would be better to sacrifice a little time, if a favourable and smooth time occurs, by beginning at that part of the work.

Your canoes are considered amply sufficient and safe to effect this object, even in boisterous weather, being furnished with balsas.

After having fixed your encampment, you will erect a tide-staff, and keep the hourly observations, as also the noting of the times of equal altitudes on the staff between tides.

The set of the currents, in and out of the harbour, at different times of the tide, will be attended to; and a rough diagram of their flow, by the direction of arrows, will prove satisfactory to make your observations intelligible.

If you find a projecting cape at the mouth of the harbour, you will not fail to get several azimuthal observations on the different points north and south, establishing the correct trending of the coast. The latitude and longitude of this point you will carefully determine.

After having finished this survey, you will proceed along the coast in your canoes (choosing a smooth time), and sketch its trendings and outlines to Shoalwater Bay, from whence you will despatch a letter for me, directed to Mr. Birnie, at Fort George, and proceed to survey with all accuracy that bay, until you have finished it, and the shores around to Cape Disappointment, which had better be done on shore, as the rollers near the cape are to be cautiously guarded against in the canoes you are to effect your work in.

From Shoalwater Bay you will pass over a small portage, when you will enter a lake that has its outlet in Baker's Bay, where you will join the ships, or await my arrival there.

In executing this duty, you will be very particular as respects the safety of your party from the natives, taking great care to avoid any collision with them, and to take up your encampments at remote distances from their lodges. Your party are provided with the necessary arms to protect themselves. None of them must be disposed of, nor any thing else given for trade, and you will take particular care and use great economy in the expenditure of every thing belonging to the government, and not abandon any thing, except through absolute necessity, in which decision the officer who accompanies you must coincide.

Before quitting Gray's Harbour, you will see that all the work of the survey is plotted, and a copy of it taken on tracing paper, which must be deposited in a separate place, to prevent the loss of both.

I am aware that you may be detained a few days on account of the surf and weather; but do not risk your men, or omit to perform the duty assigned you.

These orders you will show to Passed Midshipman Eld, that he may take a note of them, in case of accident.

A full report will be expected from you, relative to the country passed through, and all information it may be in your power to obtain relative to its facilities for commerce, and its wants.

On your arrival at Gray's Harbour, if an opportunity should offer you will send a letter, as above directed.

Wishing you a pleasant time in the execution of these duties,

I am, &c.,

CHARLES WILKES,
Commanding Exploring Expedition.

LIEUTENANT R. E. JOHNSON.

NOTE.—In the above orders, the name of Lieutenant Johnson was erased, and that of Passed Midshipman Eld inserted; and Mr. Colvocoressis substituted for Mr. Eld. C. W.

## XV.

### ARTICLES OF AGREEMENT BETWEEN THE HUDSON BAY COMPANY AND THEIR SERVANTS.

AN agreement, made this —— of ——, 1836, between ——, in the county of ——, in the parish of ——, in England, of the one part, and the Governor and Company adventurers of England, trading into Hudson's Bay, by ——, their agent, of the other part, as follows:

The said ——, hereby contracts and agrees to enter into the service and employment of the said Company, in North America, in the capacity of farm-servants, or carpenters, or voyageurs, &c.; and that he will embark, when thereunto required, on board such ship or vessel as shall be appointed, and in behalf of said Company, and proceed to Hudson's Bay, and for the term of five years, to be completed from the said embarkation, and faithfully serve the said Company, as their hired servant, in the capacity of ——, and devote the whole of his time and labour in their service, and for their sole benefit; and that he will do his duty as such, and perform all such work or service, by day or by night, for the said Company, as he shall be required to do, and obey all orders which he shall receive from the governors of the Company in North America, or either their officers or agents for the time being, and that he will with courage and fidelity in his said station, in the said service, defend the property of the said Company, and their factories and territories, and will not absent himself from the said service, nor engage, or be concerned, in any trade, or employment whatsoever, except for the benefit of the said Company, and according to their orders; and that the said —— will faithfully obey all laws, orders, or regulations, established or made by the said Company, for the good government of their settlements and territories; and at all times during the residence of the said —— in North America, he will defend the rights and privileges of said Company, and aid and support their officers and agents to the utmost of his power; and the said —— further engages and agrees, that if required so to do by the said governor of the said Company in North America, or other their officers and agents for the time being, he shall enrol himself as a soldier, in any volunteer, militia, or other military corps that may be formed or embodied by the said Company in North America, and act in that capacity with courage and fidelity, on any offensive or defensive service in which he may be employed by the governor of said Company in North America, or other their officers and agents for the time being, and attend such drills or exercise, in order to acquire a knowledge of the duties that may be required of him, as a member of such corps, whenever he may be called upon so to do by the governor of the said Company, or other their officers or agents; and the said —— further engages and agrees, that his wife and children, in consideration of being found in provisions by the said Company, if required so to do by the governor of said Company in North America, or other their officers or agents for the time being, render their services at hay-making, sheep-shearing, weeding, and such other light work as they may be equal to, at the farm or farms on which the said —— may be employed by the governor of the said Company in North America, or other their officers or agents.

And the said —— further engages and agrees, that in case he shall omit to give notice to the governor or officers of said Company in North America, one year or upwards, before the expiration of the said term of five years, of his intention to quit their service, and return to Europe, then, that he hereby promises and engages to remain one year longer, and also until the next ship in the service of the Company shall sail from thence for Europe, as their hired servant in North America, upon like terms as are contained in this contract; and the said —— also engages and agrees, that in case the said Company should not have any ship, which will sail from Hudson's Bay for Europe, immediately after the expiration of the said term of five years, or of such further term as hereinbefore mentioned, then he hereby promises and engages to remain in the service as a hired servant of the said Company in North America, until the next ship of the said Company shall sail from thence for Europe, upon the like terms as are contained in this contract; and the said Mr. Sketton, on behalf of the said Company, hereby engages, that upon the condition of the due and faithful service of the said ——, and his wife and children in like manner, he shall receive from the said Company, after the rate of seventeen pounds per annum, wages, to commence on the day of his embarkation for Hudson's Bay, as aforesaid, and up to the day of his embarkation from thence for Europe in one of the first ships in the said Company's service, and be found in board and lodging, for himself, and wife, and children, on the condition aforesaid, free of cost, by the said Company; and in the event of the said —— being enrolled in any volunteer, militia, or other military corps, as aforesaid, he shall be provided by the said Company, free of cost, with a uniform or suit of regimental clothes, every second year, to be worn when on duty in the said corps, and shall be provided with arms and ammunition, free of cost, by the said Company; and in the event of the said —— being desirous of remaining in the territory of said Company in North America, and of settling therein as a permanent resident, after the expiration of this engagement, he shall be permitted so to do, by the said Company, if his conduct, up to that time, shall have been to their entire satisfaction, and a grant of fifty acres of land shall be made to him, free of cost, but subject to the like condition, restrictions, rules, and regulations, as the other listed servants of the said Company, holding grants of land, as settlers, under them, in such situations of places as may hereafter be determined on by the said Company. But in consideration of the said such grant of land, the said —— shall have to render twenty-eight days of labour or service in every year, for the first seven years after he shall have become a settler, or permanent resident, in the country, to the said Company, or any duty he may be called upon to perform by the said governors of the said Company in North America, or other their agents or officers for the time being, without being entitled to any further pay or remuneration for such service or labours. But permission to remain in the country after the expiration of this engagement, to be dependent on the conduct of the said —— during the term of his engagement, and discretionary with the said Company, or their agents or other officers, for the time being, in North America; provided always, and it is here expressly agreed between the said parties thereunto, that it shall be lawful for the governor, or governors, or other officers of the said Company in North America, at any time during the said term of five years, or such additional term as the aforesaid, or at the expiration of the engagement, to dismiss the said —— from either service, and direct his return from thence to Europe, in one of the ships in their employment; and in which case a passage, free of cost, shall be provided, by the said Company, for the said —— and his wife and children, from Hudson's Bay back to Europe, and in such case his wages are to cease from the day of his embarkation for Europe; and further, that in case the said —— shall, at any time during this contract, desert the service of the said Company, or otherwise neglect or refuse duly to discharge his duty, as such hired servant as aforesaid, then he shall forfeit and lose all his wages; for the recovery thereof there shall be no relief, either in law or equity.

In witness whereof, the said parties have hereunto set their names.

Signed in presence of

END OF THE FOURTH VOLUME.

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W54
1845
v.4

Wilkes, Charles
Narrative of the United
States exploring expedition

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